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THE MAGAZINE FOR WOODEN BOAT OWNERS, BUILDERS, AND DESIGNERS

The Pleasures of a Shantyboat
Seacocks and Through-Hulls Explained
The Designs of Reuel Parker
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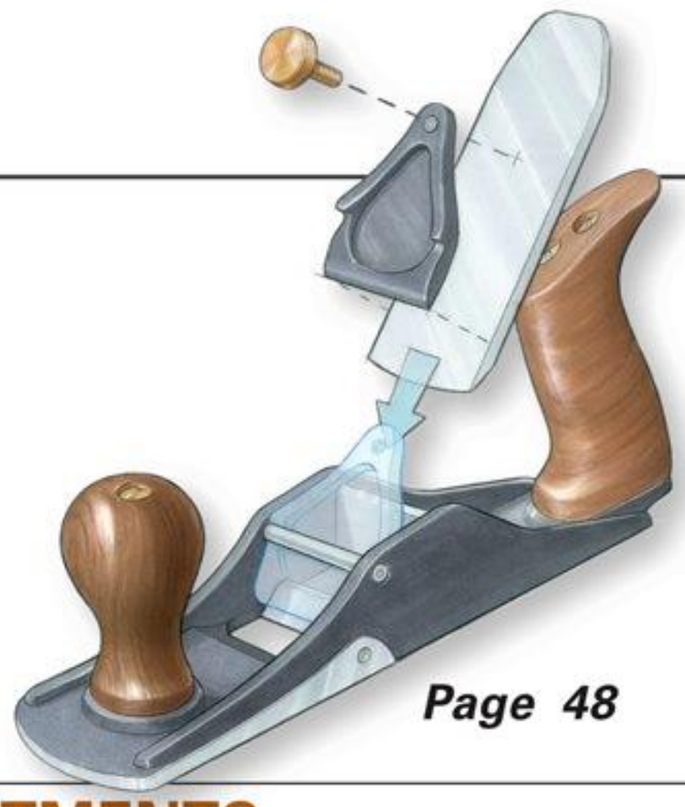

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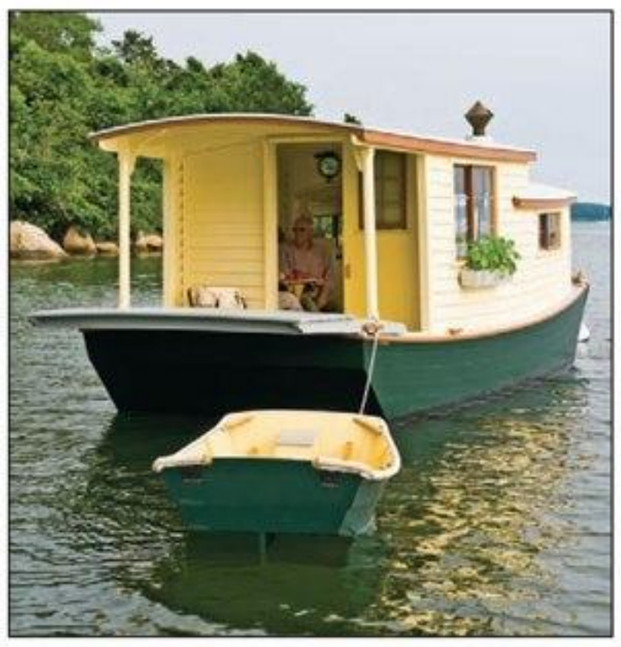
GETTING STARTED IN BOATS:
Building a Skiff to Teach Math — *Joe Youcha*

Cover: Benjamin and Martha Guy's new shantyboat, designed and built by Harry Bryan, is a simple floating cabin with no permanent means of propulsion; here, she swings to her mooring on the Westport River in Massachusetts.

See Page 56.
Photograph by Benjamin Mendlowitz



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A Cabin Afloat

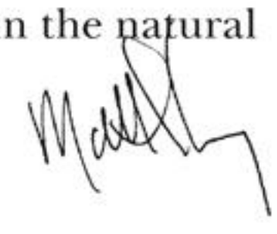
Fifteen or so years ago I had a brief dalliance with flying. After completing ground school and taking the required hours of instruction, I earned a solo certificate, a slip of paper that allowed me to rent a small airplane once a week, and observe the beautiful Maine landscape from above. It was good fun for a while. Save for one memorable trip to the town of Millinocket, where I bought a cup of coffee at the airport and then flew home, I never went anywhere but up, out over Acadia National Park or along the Blue Hill Peninsula, and back. I could observe that landscape, but I could not be in it.

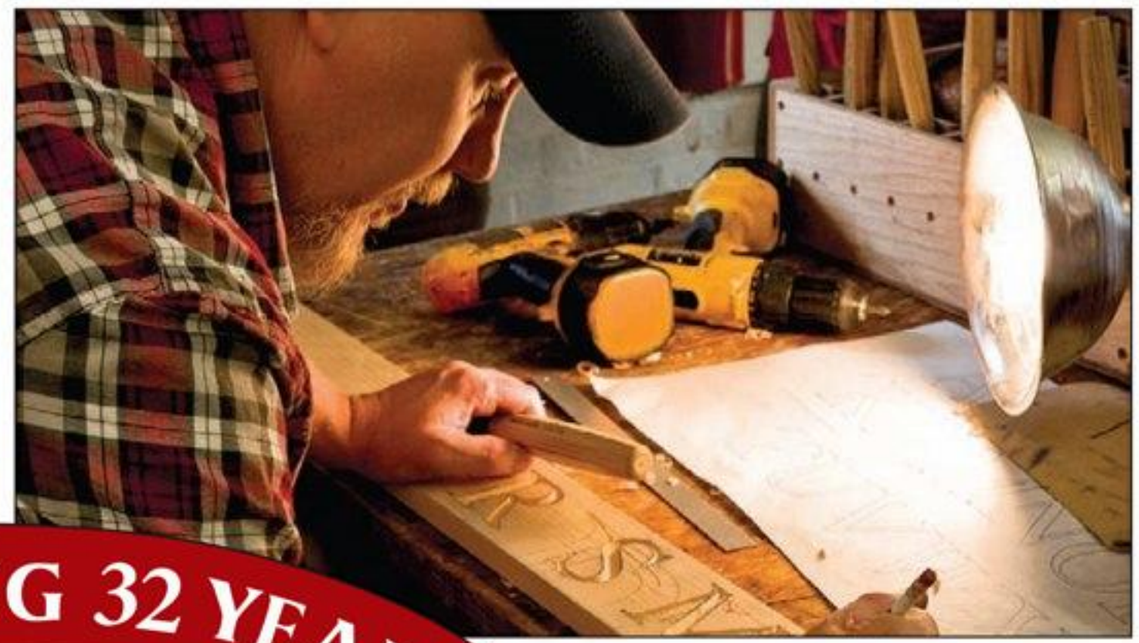
I recall, on one of my weekly excursions, watching a float plane leave my home airport with a canoe lashed to one of its floats. This sparked in my imagination an image of that plane nestled up to a lakeshore, tent pitched nearby, and canoe alongside. This is what I wanted in flying: freedom and exploration—an opening of places inaccessible by roads, and a quiet solitude and one-ness with the natural world. But it contrasted mightily with my limited aviation experience: When a flying trip was over, one did not relax in the cockpit, breaking out the cheese, crackers, and libations to enjoy the tranquility and sights and sounds of the tarmac before retiring to a bunk, as one might in a quiet anchorage. No, one logged hours, tied down the plane, covered and secured plane parts that needed shelter and restraint, and went home. I soon grew bored with a small plane's loud engine and the regulation of it all—not to mention the expense. That boredom, and a new 30-year mortgage, soon put an end to my flying ambitions. I wanted to be in boats, anyhow, not airplanes.

I'm remembering this here because Harry Bryan's shantyboat, which appears on the cover of this issue and in an article beginning on page 56, is a beautiful reminder to me of one of the best—though often overlooked—aspects of being in boats: staying put. Some boats are made for going—a racing hydroplane, for example, or a trapeze-equipped sailing skiff. But the shantyboat, with its absence of propulsion machinery, is made for simply being. You can pole, motor, or tow it from place to place if you want to, but you'll not have any memorable sea voyages in this boat. Harry displayed the shantyboat at last year's WoodenBoat Show at Mystic Seaport, and it was illuminating to watch people encounter it for the first time, and immediately understand it. Their facial expressions and comments revealed an innate understanding, as if to say, "But of course!" The boat's owner, Benjamin Guy, writes a complementary article to Harry's (page 59), and he's observed this, too:

> *"The shantyboat is easily understood and comfortable for anyone, including my spouse, who has studiously avoided anything to do with boats for most of her life. Now she finds herself on the boat for supper most evenings, or engaged there with some ladies for a game of Scrabble on a hot afternoon."*

And to think that one can find such peace in the natural world, without a float plane.





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*MAY	JUNE			JULY				
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Fundamentals of Boatbuilding with Greg Rössel		Fundamentals of Boatbuilding with Wade Smith		Fundamentals of Boatbuilding with Greg Rössel		Fundamentals of Boatbuilding with Warren Barker		Introduction to Cold Molded Construction with Mike Moros
Making Friends with Your Marine Diesel Engine with Jon Bardo	Build Your Own Northeaster Dory with David Fawley	Building the Caledonia Yawl with Geoff Kerr		Build Your Own Greenland-Style Kayak with Mark Kaufman	Build Your Own Stand-Up Paddleboard with Geoff Kerr	Save A Classic with Eric Blake		Traditional Wood-and-Canvas Canoe Construction with Rollin Thurlow
Build Your Own Fox Canoe with Bill Thomas	Building the Asa Thomson Skiff with John Karbott	Introduction to Boatbuilding with Bill Thomas	Stitch-and-Glue Construction with Sam Devlin	Build Your Own Bronze Salute Cannon with Duke McGuiggan & Michael Caldwell	Build Your Own Plank Constructed Pond Yacht with Thom McLaughlin	Fine Strip-Planked Boat Construction with Nick Schade	Woodcarving with Reed Hayden	Boat Cabinetry with Dave Merrifield
*May 13-19 and May 20-26 Alumni Work Weeks	Inspecting Wooden Boats with David Wyman	Inspecting Fiberglass Boats with Sue Canfield	Lofting with Greg Rössel	Elements of Seamanship with Jane Ahlfeld & Annie Nixon	Elements of Seamanship with Annie Nixon & Steve Stone	Vintage Pond Yachts Part II with Thom McLaughlin	Marine Electrics with Patrick Dole	The Art of Scrimshaw with Ron Newton
			Coastwise Navigation with Jane Ahlfeld	WANDERBIRD with Rick & Karen Miles (June 23-July 2)	The Skills of Coastal Seamanship with Andy Oldman	Bronze Casting for Boatbuilders with Sam Johnson	Metal Working for the Boatbuilder & Woodworker with Erica Moody	Elements of Seamanship II with Martin Gardner & Robin Lincoln
			Elements of Coastal Kayaking with Bill Thomas			Elements of Seamanship with Jane Ahlfeld & Sue LaVoie	Elements of Seamanship with Martin Gardner & Sue LaVoie	Craft of Sail on ABIGAIL with Hans Vierthaler
			Blacksmithing and Modern Welding with Doug Wilson & Will Dupuis			Island Exploration & Seamanship with Andy Oldman	Coastal Cruising Seamanship on ABIGAIL with Hans Veirthaler	Sailing Downeast with Andy Oldman
						Coastal Landscapes in Color with Susan Vanderlin		Elements of Coastal Kayaking (camping 2 nights) with Bill Thomas

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Build Your Own Lapstrake Canoe with John Harris	Building a Dory with Walt Ansel	Build Your Own Shearwater Sport Kayak with Eric Schade	Traditional Lapstrake Construction with Geoff Burke		Build Your Own Annapolis Wherry with Geoff Kerr	Glued-Lapstrake Plywood Construction with John Brooks	Finishing Out Small Boats with John Brooks	Build Your Own Willow Quickbeam Sea Kayak with Bill Thomas
Build Your Own Chuckanut Kayak with David Gentry	The Essentials of Fine Woodworking with Janet Collins	Build Your Own Skipjack Sailing Model with Alan Suydam	Building the Somes Sound 12½ with John Brooks		Building the 12½' Semi-Dory Skiff with John Karbott	The Art of Woodcuts with Gene Shaw	Boatbuilder's Hand Tools with Harry Bryan	Building Half Models with Eric Dow
Build Your Own Pram with Bill Thomas	Rigging with Myles Thurlow	Elements of Boat Design with Graham Byrnes	Strip Composite Construction with Clint Chase	Traditional & Modern Oar Making with Clint Chase	Coastal Maine in Watercolor with Amy Hosa	Introduction to Sailmaking with Marti & Jed Siebert	Introduction to Canvas Work with Ann Brayton	Inspecting Fiberglass Boats with David Wyman
Learn to Sail with Jane Ahlfeld & Annie Nixon	Elements of Seamanship *(women only)* with Jane Ahlfeld & Gretchen Snyder	Elements of Seamanship with Martin Gardner & Dave Gentry	Sailmaking for Pond Yacht Owners with Alan Suydam	Lofting with Greg Rössel	Small Boat Voyaging with Jane Ahlfeld & Bill Thomas	Marine Photography with Jon Strout & Jane Peterson		
Craft of Sail on BELFORD GRAY with David Bill	Craft of Sail II with David Bill	Beach Cruising & Coastal Camping with Ross Beane & Bill Thomas	Sailing Traditional Daysailers & Beach Cruisers with Al Fletcher & Mike O'Brien	Craft of Sail on MISTY with Queene Foster	Elements of Coastal Kayaking (over 40) with Mike O'Brien	Sea Sense Under Sail with Havilah Hawkins		
	Coastal Cruising Seamanship on ABIGAIL with Hans Veirthaler	Seascape/Landscape in Watercolor with Phil Steel	Craft of Sail on MISTY *(women only)* with Queene Foster	Elements of Coastal Kayaking II with Stan Wass	Sea Sense Under Sail with Havilah Hawkins			
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LETTERS

BamBoo Boo

Dr. Richard Jagels,
I thoroughly enjoyed your article in *WoodenBoat* on bamboo. Last year, I started making an 8′ dinghy out of bamboo strips and found it a unique challenge. Much to my dismay, after four to six weeks of spare-time work, I was moving my shop and the boat project was struck by a forklift (yes, I was driving). It fell off the supports and splintered into thousands of pieces before I got a picture—and, more important, before fiberglassing. The boat was not savable, and after a few tears and a box of tissues, I abandoned the project and vowed to try again someday. Hence, I was excited to find out that I am not the only one crazy enough to make a boat out of bamboo! Here are a few notes from this endeavor:

I cut 1″ strips from ¼″, three-layer plyboo (www.plyboo.com) and cove-and-beaded the strips myself. Surprisingly, that process was not too difficult. The plyboo was, however, rather difficult to work within the traditional methods of cove-and-bead boatbuilding—particularly stapling it to forms. I developed a technique with a pneumatic stapler, and once proven it went smoothly, but never quickly! The splinters from bamboo are not fun; they pierce skin like a hypodermic needle.

I look forward to more boats made from bamboo in *WoodenBoat*.

Eric Aragon
Salt Lake City, Utah

Safety Afloat

I have been boating for more than 60 years. This simple statement also says that safety is my first priority. As such, I was disappointed with the cover photo of issue 223 featuring a boater alone in a small flat-bottomed skiff at speed, standing up, no visible life jacket, no safety harness, and no lanyard to an engine cutoff. This unfortunate visual message was repeated on pages 54 and 57. These pictures are in direct contrast to the words of safety provided in the *Getting Started in Boats* article in the same issue. I hope, in the future, all of your messages will be consistent in advocating for safety first.

Daniel R. Hanson, MD, PhD
Altoona, Wisconsin

Uffa Fox

Nic Compton's recent piece on Uffa Fox and the International Fourteen was of special interest to me and I'm sure to many other readers. We have a lapstrake version in Nova Scotia, vintage 1947, which I bought from the Royal St. Lawrence Yacht Club (Montréal) in 1955. My children all learned to sail this boat and want their children to have the same opportunity. The original boat, now pushing 70, is beyond economical repair, so we decided to build a new one using the original hull as a model. Studying the the lines and details of Uffa Fox's ALARM (built 1937) convinces me that our boat came off the same mold. I started building the

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new boat this fall and was expecting trouble with that plumb stem, as the garboards make a 45-degree twist in 30″. I was quite wrong—and didn't even have to use steam—so encourage anyone who admires these classic boats to do likewise. If anyone has a lapstrake Fourteen dating from the 1940s, I'd like to hear from them. Plans for AVENGER—a very similar boat—are available from the Uffa Fox website (www.uffafox.com).

Simon Watts
San Francisco
simonawatts@earthlink.net

Heaving-To?

Dear Editor,
Mr. Halabisky's concept of heaving-to (WB No. 223) differs from mine and from authors Lin and Larry Pardey. In *Storm Tactics*, page 31, they say, "If the boat is making headway, you are not hove-to, you are sailing!" In my own boat, an Ingrid 38, I have hove-to many times under mizzen alone. In this configuration, she drifts dead downwind with the bow up in classic form, never leaving the protection of the slick she creates to windward. It is very comforting to see the breaking waves disintegrate upwind between our bow and stern, while continuing to break both forward and aft of us. I would not care to be fore-reaching out of that protected slick, however slowly.

Mark Bennett
Mintaka

Bruce Halabisky replies:
I agree that when heaving-to it is best to eliminate any headway. However, the real objective of heaving-to is to create a comfortable and safe environment on the open sea. Sometimes this is only possible when there is no headway and, as Mr. Bennett describes, there is a protective slick to windward. In less severe conditions an acceptable level of comfort and safety may be reached without the boat being stationary and she might, in fact, fore-reach slowly at a half a knot or so.

Erratum: The Compleat Name

Dear Editor,
In WB No. 223 I committed a sin unpardonable in the eyes of all anglers: I misspelled the given name of the revered 17th-century poet and writer Izaak Walton, author of *The Compleat Angler*. I acknowledge my error and beg forgiveness of all fly fishermen.

Bruce Stannard
Robinson, NSW Australia

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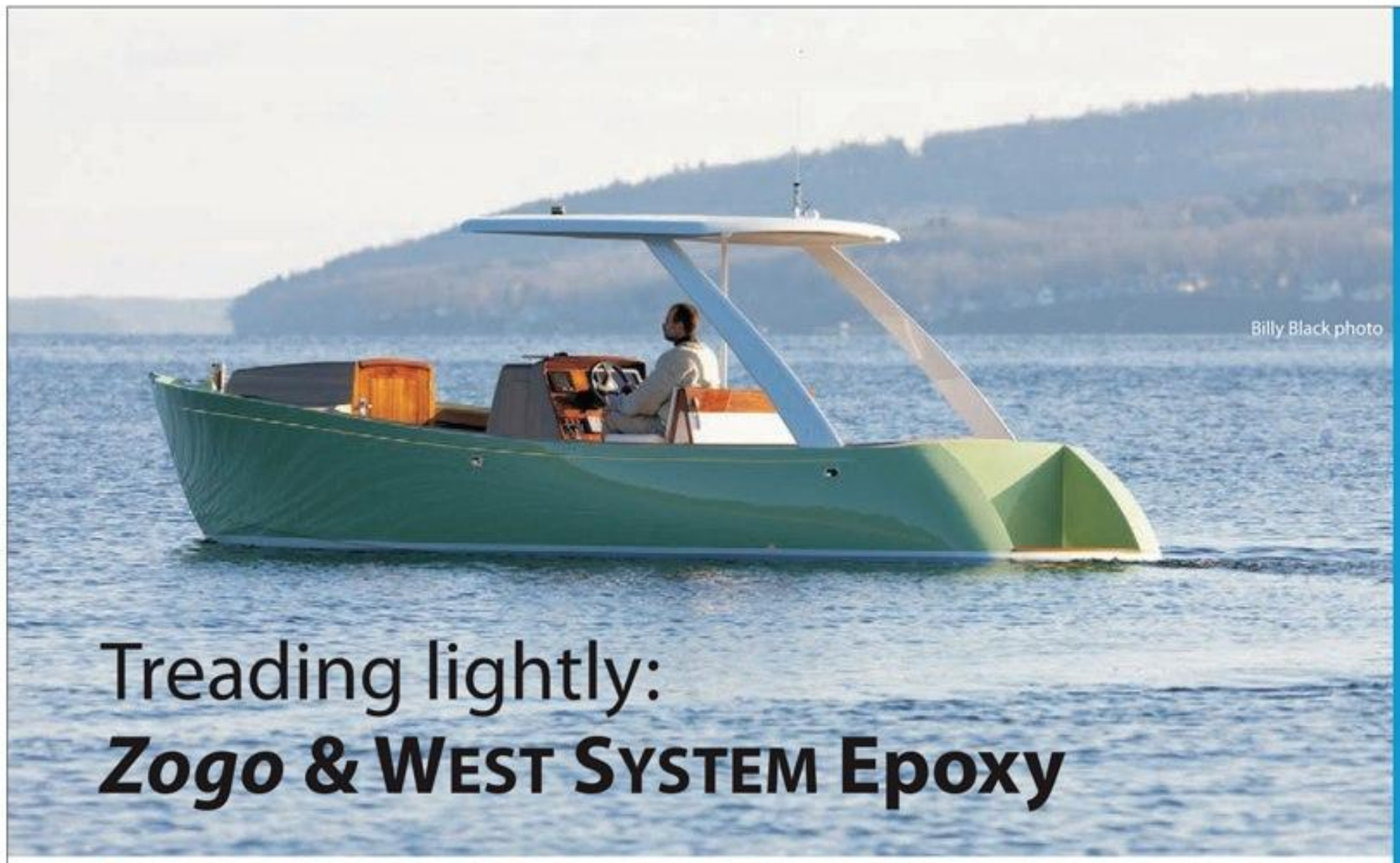

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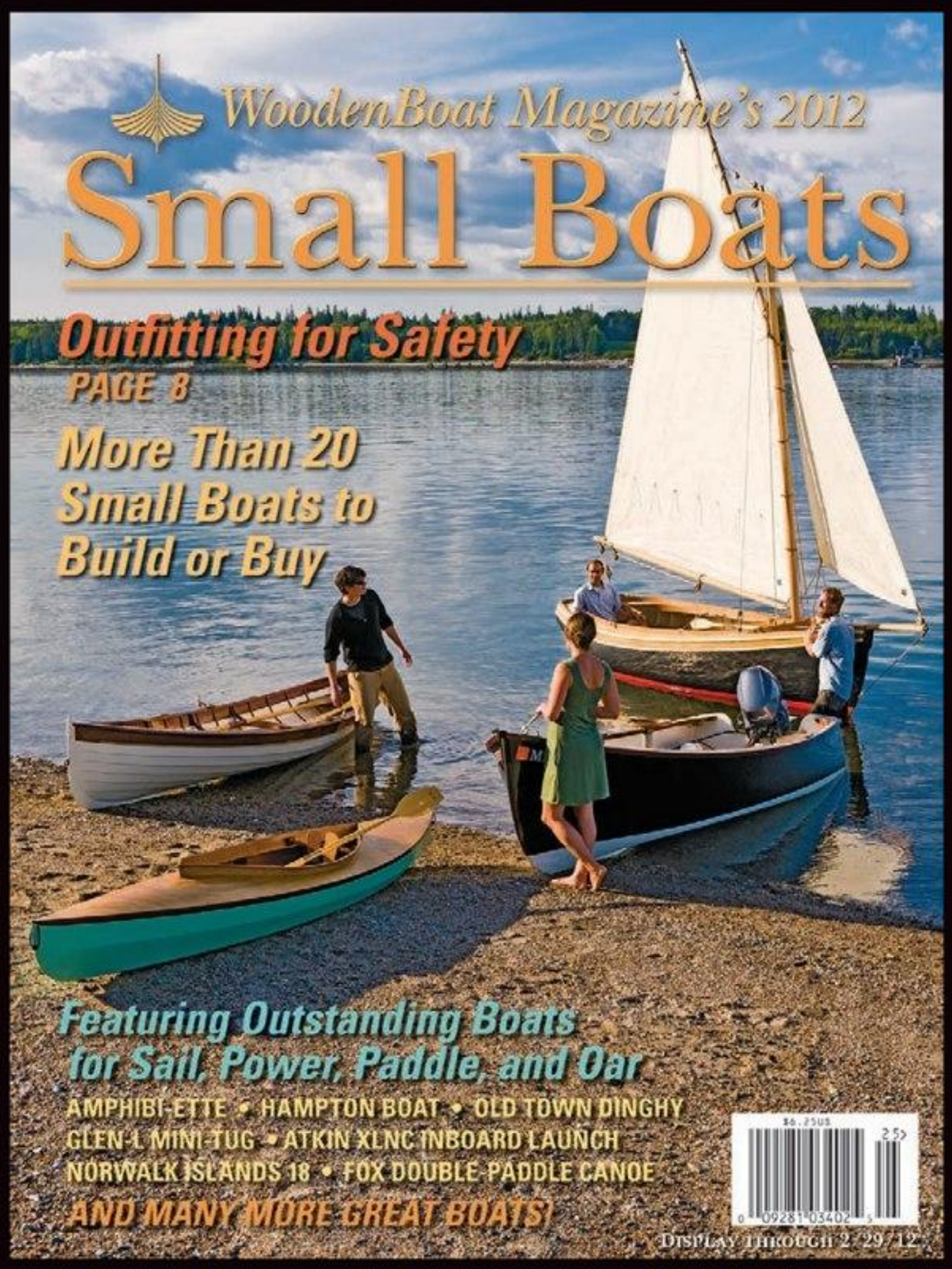
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VOL. 6

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After a Fashion

by David Kasanof

PETE GORSKI

We all admire folks who would rather stick to their principles than cave in to the dictates of fashion. I admire them too. I'd just rather not be one of them. Purity and noble steadfastness are usually no fun.

Early in my sailing career I got a taste of such purity when a friend lent me his Friendship sloop for the weekend. There was just one catch: He had changed the traditional gaff rig to a marconi rig. At first I was reluctant to take the boat out, but it seemed churlish to refuse. I think I said something about sunglasses on the Mona Lisa. But my friend's arguments made sense. The modern rig was easier to handle and more close-winded. The reduced sail area was safer and the rig was less complicated, hence less prone to parts failure. It was a case of practical good sense versus tradition for the sake of tradition.

I took this boat out. Most folks don't know a Friendship sloop from a catamaran, so I was generally unmolested—although some people didn't wave back when I waved, and one person yelled, "What have you done?" Oh yes, there was one (but only one) death threat. Some chap rather peevishly offered to shoot me if I came close enough.

After the sail, I felt as if I had been party to some great crime. Good grief, I had sailed a Friendship sloop with an altered rig, no gaff. Despite the solid arguments for changing the rig, I felt guilty. Gosh, when I wave to other folks on their boats, I feel really, really bad when they don't wave back.

I remembered that sail when I was considering the purchase of my next boat. Otherwise, I might have spent almost 20 years on a Chinese junk instead of my beloved gaff-cutter CONTENT. In the cold light of reason, the junk is far superior to Western rigs, especially for one who intends to live aboard. It's easier to reef, about as close-winded as the gaffer, and roomier below.

So, why didn't I get one? I just couldn't face up to being "the guy who lives on that Chinese junk." Imagine a conversation about sails. Someone mentions North, another mentions Hood. Another asks me who made my sails. I reply that they were stitched up from bamboo slats from a grove owned and operated by a certain Master Wu, his family, newcomers to the trade, having been in business for only three centuries. My companions drift away and don't talk to me about sails again.

I'm aware that some sailors have employed the junk rig combined with a Western-style hull and cloth sails. That's like using chopsticks with knives, forks, and spoons attached to them. C'mon fella, the bamboo sails are part of the whole deal. They are, as mentioned, much easier to reef than cloth sails and, most important, they look ...well... Chinese.

Being the odd man out is a tough row to hoe. Because CONTENT had no anchor winch, I devised a hook-and-lanyard gizmo that enabled me to secure the part of the anchor chain that I had already hauled aboard by hand. That enabled me to haul more chain aboard without "losing" what I had already gotten on deck. I recall explaining my "clever" invention to an old salt who had served on lumber schooners as a youth during the last days of commercial sail. "Oh," he said, "you made yourself a devil's claw. But you know, Dave, nowadays we have something called an anchor winch." In other words, I had followed my independent creative instinct boldly into the beginning of the previous century.

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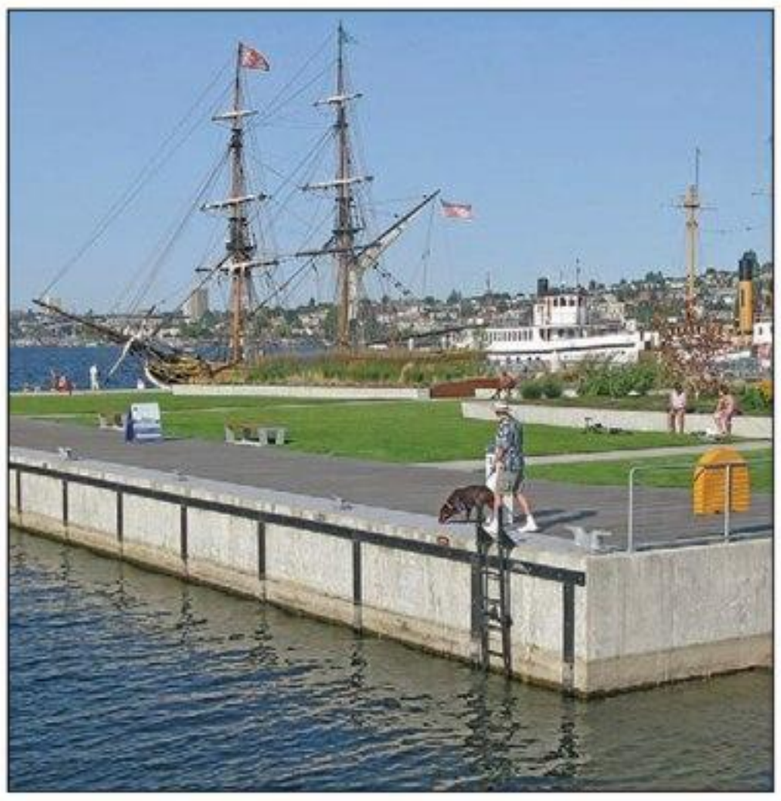
A warm place in the heart of a city

by Tom Jackson



TOM JACKSON

***Above left*—A new city park adjacent to The Center for Wooden Boats in Seattle, Washington, has space for historic and visiting ships, and soon the Museum of History and Industry will move into a former armory. *Above right*—Next to the concrete of the new park, the CWB's upgraded entry and floats are proof of how warm and inviting wooden construction can be.**

We who work with wood and value craftsmanship are unsurprised to find humanity in wood construction. Especially when worked by hand—and here boats are among the best examples—wood holds in its grain the character of its builder in ways no other material can match. In keeping with these characteristics, The Center for Wooden Boats in Seattle, Washington, is performing for a new adjacent city park the same role it has always played for the city: it is humanizing the place.

The recently completed park itself struck me as a bit of a blank slate when I visited in September 2011. Its largely flat expanse of grass is transected by concrete walkways, and the boat shape of the concrete flower beds is only evident when seen from the air or in artist's renderings. The park's saving grace is found in the sum total of its water features: a rather uninspired sidewalk line of water jets that kids should find fun on a hot day, a tiny-looking beach cut into the shore between concrete walls, the use of the lake's cleaned-up and restored shoreline itself, and above all a large circular concrete pool which should be wonderful for pond-yacht sailing. New mooring quays are home to the venerable and important steamship VIRGINIA V and the Northwest Seaport's historic fleet. It has ample space for visiting ships—LADY WASHINGTON was in when I was there. No doubt time will soften the new park's hard edges, especially when its trees mature into the envisioned groves. But for now it seems more of a place to pass through than to light.

Fortunately, a new round of facilities upgrades at the CWB have made the center, even more than ever, a place not only to light but to spend the better part of a day, regularly. It has always been active and lively. Boats come and go, young volunteers hustle around, hulls are under construction or repair, people ambling along the floats stoop to read boat information cards. A new ramp installed this year as part of a facilities upgrade makes the main entrance even more inviting. The ramp itself is a metal structure—all ramps these days seem to need the capacity to move vast herds of very tall cattle—but it has wood in its decking. Central grating lets light pass through for environmental reasons. The canopy, however, is all wood and blends well with the original buildings designed for the center by its founder, Dick Wagner. The new entryway has places to linger, and the boats moored alongside show up better. The floats, too, have been upgraded, with wood decks with central gratings. New steel pilings hold them in place. Because of the park's construction, the center had to rework its utilities and provide another ramp, predominantly built of wood, as a western access via the park. In all, it was a $600,000 project, according to Betsy Davis, the center's executive director.

The CWB also plans to eventually construct a $1.5-million education building on land at the head of the park, with construction bays visible for trolley riders and anyone stuck in traffic. The two-story building, 10,000 sq ft as proposed, would expand the center's boatbuilding space and house classrooms, exhibits, a sail loft, administrative space, and a sorely needed library. (Off-site, the CWB has lost a lease on a boat-storage site and is looking for another one, though it may have to end up shedding some of its collections. Meanwhile, the Center has reached an agreement to lease a site near a large city park at north Lake Union that would first provide building space and, in the long term, a second urban "campus" for the CWB with ample water access and large-boat repair facilities.)

Sad as the loss of the 1895 three-masted schooner WAWONA was for south Lake Union, even the most rock-ribbed preservationists had to admit it was painful watching her long fall into decrepitude just an arm's reach from the CWB. She was cut up in 2009 (see Currents, WB No. 208). Pieces of the historic ship will re-emerge, however, in exhibits at the Museum of History and Industry when it moves in to a former U.S. Naval Reserve Armory just a stone's throw from the CWB. The museum, which will include a maritime historical component, is expected to reopen at the new site in late 2012 after a $60-million renovation now underway.

As these changes swirl within it and around it, the CWB continues as a quiet but persistent reminder that people gravitate not to architectural models but to places where activity is real and interaction comes naturally. The center's wooden structures reinforce its purpose, but it is the boats themselves, above all, that beacon people to put their hands, and their character and their humanity, to use.

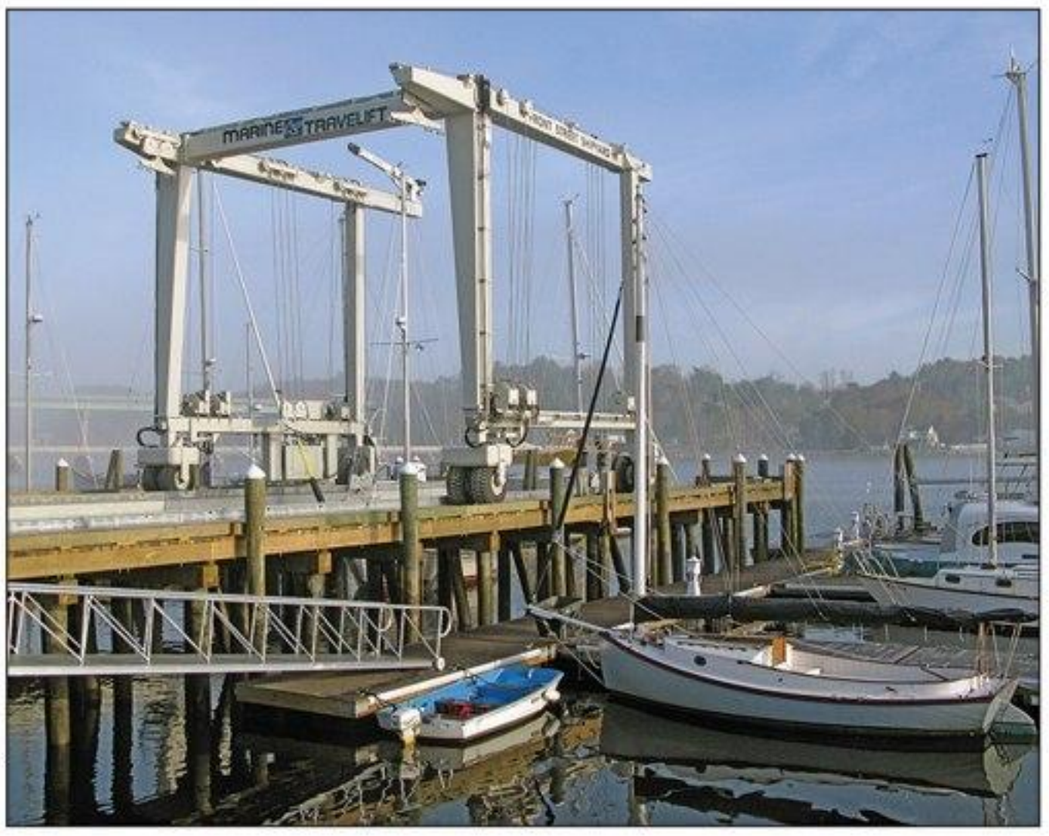
Tom Jackson is WoodenBoat*'s senior editor.*

Around the yards

■ Two of Maine's pre-eminent wooden boat builders are partners in a **new boatyard in Belfast, Maine**. **Front Street Shipyard** has sprung up very rapidly on what had once been, among other things, a sardine packing plant, a railroad roundhouse, and a proposed

condominium development. **J.B. Turner**, the managing partner, teamed up with **Brooklin Boat Yard** and **Rockport Marine**, and also with his former employer, **Kenway Corp.**, to start the yard, with the city government's quick approval. The staff as of this writing was 29, and could quickly double. Existing buildings were reworked, and several new buildings were completed or underway as of late 2011. Its 18 marina slips filled quickly, and 25 more are planned, all with more than 10′ draft at the lowest tides. There will also eventually be a linear float with 250′ of day moorage and pierhead washrooms and a brokerage office.

According to Steve White of Brooklin Boat Yard and Taylor Allen of Rockport Marine, the new collaboration won't have any effect on their existing yards or their focus on wooden hull construction and repair. They're investing in the yard, but not venturing into composites themselves. But large wooden yachts may well be among those that the partners think may come from as far away as the Caribbean for service in Maine. The facility's flat land and deep-water access allow large haulout capacity and storage space. Nearby amenities in Belfast—stores, restaurants and a movie theater, for example—should help make the yard a Penobscot Bay destination for yacht servicing.



TOM JACKSON

A 165-ton Travelift will see plenty of use at the Front Street Shipyard in Belfast, Maine.

"Certainly there's an opportunity there for J.B. to attract some larger wooden yachts that are not easily serviced in this neck of the woods," Allen said. "This is a great cruising area, and that facility could eventually attract some of the bigger wooden yachts that are harder for other yards around here to handle. There's the opportunity to more easily do larger projects that are more difficult for us to do here," he said. "We're a postage-stamp-sized piece of land here," the same term White used to describe his own yard. "For a long time, I've wanted the ability to handle larger boats than we can handle here now," Allen said. "I've

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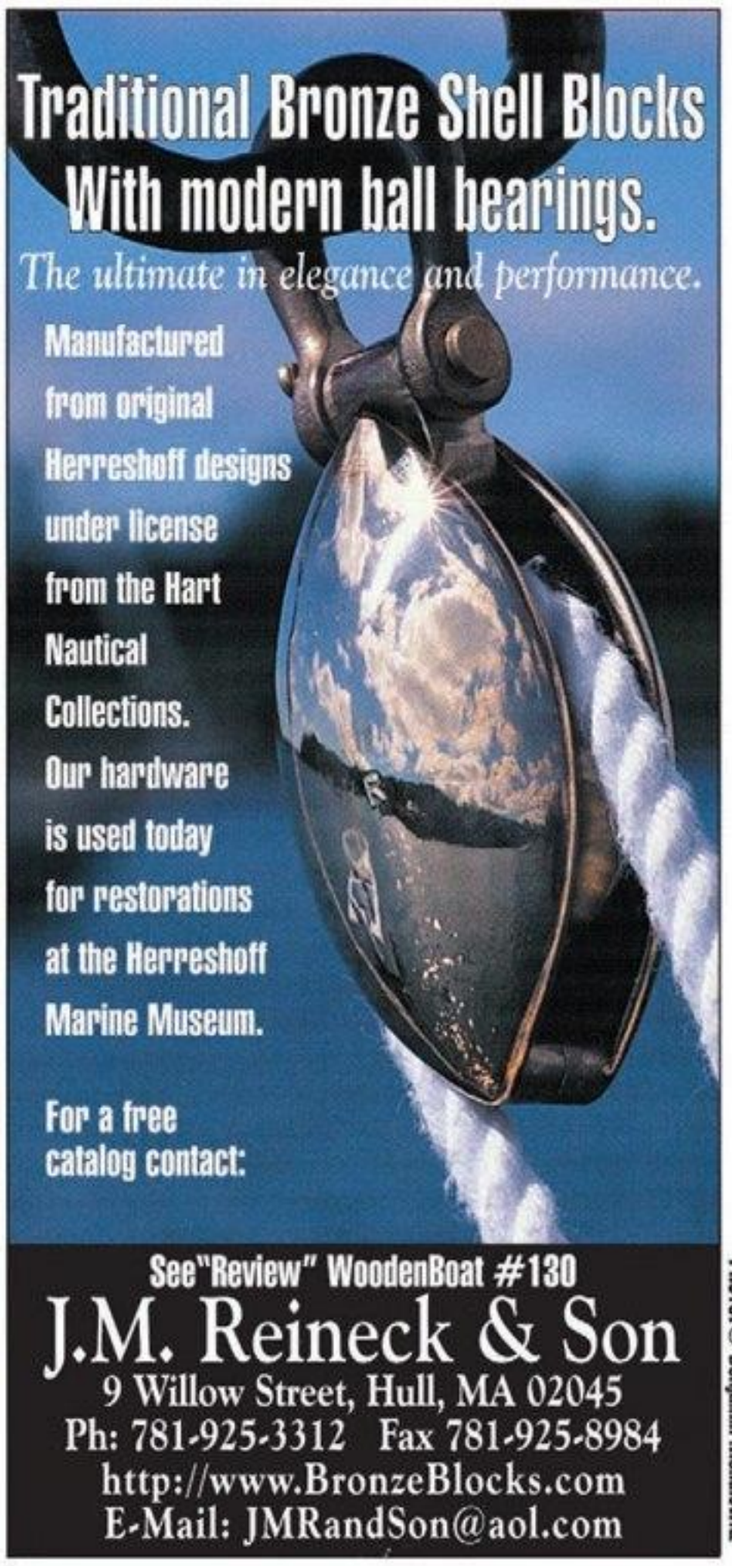
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essentially given up trying to make it work here because it's just too small. So it's an added opportunity for us up there." Another possible opportunity is subcontracts, for example on high-end interior woodworking.

Kenway, on the other hand, has a background with a variety of high-tech composites. The company will build some of its Maritime line of center-console fishing boats at the site, together with large composite structures such as submarine fenders for the U.S. Navy and large turbine blades potentially for offshore wind-power generators.

What the businesses have in common, the partners say, is a need for deep-water access and waterfront space. The yard, with 1,000′ of frontage at the head of navigation, can handle new construction up to about 145′. Two side-by-side construction bays in a purpose-built structure are 160′ long, 48′ wide, and several stories tall, one side with two 5-ton overhead rolling cranes and the other with a single 10-ton. Mezzanines will allow efficient work access. The yard has its own 31′-wide launching ramp, plus a 165-ton capacity Travelift fitted with an 18-ton mast-hauling crane. A 60-ton Brownell trailer will be used to move boats to and from storage sheds. *Front Street Shipyard, 101 Front St., P.O. Box 558, Belfast, ME 04915; 207–930–3740; www.frontstreetshipyard.com.*

■ Yacht designers **Bob Stephens** and **Paul Waring**, who several years ago branched off from their earlier roles as in-house yacht designers at Brooklin Boat Yard, have left the yard entirely and have opened their own independent office, **Stephens Waring Yacht Design**, in—wait for it—**Belfast, Maine**. Their May 2011 office opening coincided with, but is unrelated to, the development of the Front Street Shipyard (see above), with which they have no affiliation.

Although Brooklin Boat Yard and Rockport Marine say their core wooden-boat businesses won't change with the inception of the new Belfast yard, Stephens and Waring are distinctly moving in new directions with their move to the city. They have been closely associated with cold-molded wooden yachts, and for a couple of transitional years remained in offices at Brooklin Boat Yard with yard owner Steve White as part of the design partnership. Stephens and Waring are hoping to design series boats for production in materials other than wood, in addition to designing custom boats in a variety of materials, among which wood will remain one alternative. "It finally just became pretty clear that it was going to be best if we each focused on what we did best," said

TOM JACKSON

Paul Waring (left) and Bob Stephens have moved their yacht design firm to an office in Belfast, Maine.

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Stephens, who is a regular contributor to *WoodenBoat*'s design review section (see page 75). "Steve was ready to focus on boatbuilding, and we were ready to focus on really running a world-class design office."

Cold-molded boat construction still represents good value in custom-yacht construction, Stephens said, but aluminum and modern composite construction have made inroads. "It used to be true," Stephens said, "that if you wanted to build the highest-tech custom race boat possible, the lightest, fastest boat, it was going to be cold-molded wood. And that wasn't very long ago. But the development of alternative materials for custom boats has changed the marketplace." Winning races and being on the cutting edge of technology, which have always heavily influenced custom yacht design, now often involve building with high-end composites such as carbon-fiber. One recent Stephens and Waring design, done "on spec," is a 38-footer that has potential for series construction, and another is a 56′ custom yacht whose hull material is still under review, although the yacht has been discussed as a prototype for a line of production boats. A French firm, meanwhile, is nibbling at a design for aluminum production. "We don't necessarily care what material something is built out of," Waring said, "but we'll certainly try to push or recommend certain materials for the right job and the right mission or focus of the particular design."

The designers have also long been associated with the "spirit of tradition" class, for which many of the designs have had long, fine overhangs like yachts from the early 20th century. Lately, though, the two men have been working in a different vein, using influences as varied as hulls of historic racing sandbaggers and aspects of rig and deck layouts from modern Open 60 racing yachts. "The 'spirit' of tradition to me is a name that suggests the idea of evolving the process and utilizing the tools that we already know and have seen, but trying to incorporate something completely new and different," Waring said. "We see it as our challenge and our duty to press that envelope in directions people haven't thought of before. But also there's just so much territory to explore in terms of aesthetics, shape, and performance. Primarily, what we're saying to the world is, 'Here we are.' We believe we're a force in the marine industry, and we would like to expand our business opportunities and have larger goals in mind to try to achieve." *Stephens Waring Yacht Design, 92 Main St., Third Floor, Belfast, ME 04915; 207–338–6636; www.stephenswaring.com.*

TOM JACKSON

The William Fife–designed schooner ADVENTURESS, 83′ on deck, is undergoing a complete reconstruction at Rockport Marine in Maine.

■ Speaking of **Brooklin Boat Yard**, the yard in November 2011 began building **two new boats**, both designed earlier by Bob Stephens and Paul Waring. One is a **46′7″ sistership to LENA**, a cold-molded sloop designed in 2000. The second boat is **26′3″ jet-drive runabout**, a near-sister to PANDL, which the yard built several years ago.

■ And speaking of **Rockport Marine**, the yard is well along in a complete **restoration** of the **83′ LOD William Fife–designed schooner ADVENTURESS** of 1924. The yacht was brought to the yard two years ago, after having been in Newport, Rhode Island, for about 10 years. "The new owner, who's a terrific guy, knew when he bought the boat that he would need an entire new deck and deck frame, and that we would be doing some other things as well," yard owner Taylor Allen said. "But it has developed into a full-blown restoration of the entire boat," not just extensive deck and hull work but an entirely new rig and a new interior as well. "We've replaced all of the backbone, except for the big plank keel and some of the deadwood. Everything else is new. The previous owner reframed the middle half of the boat, and when the deck was off we then reframed both ends, so all of the framing is new." The double-sawn frames are of white oak. "We got rid of all the iron floor timbers, which had really destroyed a lot of the oak down there. We replaced all of them with bronze. We've replanked probably half the boat," matching the original teak planking. The deck and deckhouses, too, are all-new teak constructions, as is the transom. All the work is to Lloyd's specifications. The yacht, confiscated in France during World War II and heavily altered by a French owner after the war, retained little of its original appearance. Working with Fife drawings, and with consultation from Fairlie Restorations in England, the yard is renewing the boat but matching original styling at least conceptually. The largest deck structure, for example, matches the style of the original but is longer, a change necessitated by the installation of a new engine farther forward than the original. The interior is to be trimmed in European walnut, with extensive use of raised-panel construction. "Except for some components of the hull, it's essentially a new boat," Allen said. "The guy said, 'Look, build me the boat, do the best job you can, make it as close to the design intent as original, but don't go overboard.'" Where the yacht differs mightily is in her systems, with all-Monel tanks for water, fuel, and waste, hydraulic controls for some of her winches, and extensive electronic systems. The rig, too, is entirely redesigned. The boat, originally launched as a marconi schooner and later converted to a ketch, will sail as a gaff-topsail schooner. Her sails will be made by Nat Wilson of East Boothbay, Maine. She'll have all-new Sitka-spruce masts and spars made in-house at Rockport Marine. Most of her new bronze hardware is made in-house, with some elements, such as a complex main boom gooseneck fitting, by Fairlie Restorations. "This is the combination of a great piece of work, and a great owner," Allen said. "For us, it's as good as it gets, frankly." Relaunching is expected in June 2012, more or less. *Rockport Marine, 1 Main St., P.O. Box 203, Rockport, ME 04856; 207–236–9651; www.rockportmarine.com.*

■ **Kit versions** of some of **Sam Devlin's stitch-and-glue boat designs** from Devlin Designing Boatbuilders in Tumwater,

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Getting Started in Boats

from the Editors of WoodenBoat *Magazine*

Volume 32

Building a Skiff to Teach Math

— Building a Skiff to Teach Math —

by Joe Youcha
Photo illustrations by Bob Grove

Our kids need to learn how to use math. They need more "hands-on" experiences than they usually get in a classroom. I believe, by working as teachers, wooden boat builders can help. This piece introduces how to do this work, and I hope it will also serve as a call to action.

Build a boat with kids and they'll learn fractions, geometry, and maybe even a little bit of algebra. More important, they'll learn that without math they can't do the job right. Being unable to do the job right has direct consequences: the boat will leak and they are going to get wet. Kids who learn to use math in the shop can transfer those skills to the classroom with confidence and ability.

Most of my experience in building boats with kids has involved the Bevin's Skiff, a 12′ rowing and sailing skiff that we designed at the Alexandria Seaport Foundation in 1997 specifically as a teaching tool. A "Math Instructor's Guide" accompanies the volume of building instructions for the boat. So, naturally, that's the boat we like to use in teaching these skills, and it's the boat shown in these pages. But most of these skills can be taught by building any simple skiff.

The usual process of skiff-building starts with raw lumber and a set of plans. You then lay out and cut the parts; assemble the stem, sides, center frame, and transom; put on the bottom and keel; and install the frames, rails, and seats. We have found that when we want to optimize math instruction, boatbuilding happens in a different order.

When teaching math, jump right in. Start with a kit of parts, so the students see the shape of their boat quickly—usually the first day. After one class launches its boat, we have those same students lay out and cut the parts for the next building group. This order of work keeps the students motivated and matches their growing math skills with the tasks they need to accomplish.

Many math skills and concepts are repeated throughout the construction. This is a wonderful teaching environment. Repetition reinforces concepts, and the same topic can challenge different kids in different ways. For example, one student may learn about isosceles triangles by measuring back along each side the same distance from the stem while laying out frame spacing. Another student may already know that isosceles triangles have two equal legs but may be challenged when using the same kind of triangles to lay out perpendicular lines.

Repetition of math skills also gives the instructor multiple chances to figure out how an individual kid learns best. Remember, if the student hasn't learned, the instructor hasn't taught.…

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— Measuring and Ratios —

When a set of two-dimensional boat plans becomes a three-dimensional boat under their hands, students see a direct connection between mathematical principles and their practical application.

Measuring—In almost every building step, you have the opportunity to measure, add, subtract, multiply, or divide fractions and mixed numbers.

When you are measuring the spacing of nails used to fasten the side panels to the stem, don't be surprised if your builders can't read a ruler. When they need to measure the width of the bottom and divide it in half in order to locate the keel centerline, they'll be using a ruler and successfully dividing mixed numbers. And by the time they get to laying out the side and bottom panels for the next class's boat, they will be fluent in fractions and how to use them. They will even be combining geometry with fractions to plot the necessary points.

You can also have the kids who have mastered certain skills teach those who haven't. Pair them up to do particular jobs. The ability to teach a skill is a student's best proof that he or she has learned the skill.

Ratios—Boatbuilding relies on ratios almost as much as measuring. The proper length of the first nail you drive is three times the thickness of the plywood it is fastening to the stem. A bucking iron enables the nails locating the center frame to be easily driven because the mass of the bucking iron is so much greater than the mass of the hammer (which incidentally provides a chance to talk about momentum and the conservation of energy). Ratios are used when mixing epoxy, and also when using scale drawings to lay out side and bottom panel shapes. The plywood scarf joints you'll need to make are an example of the ratio of "rise over run," or slope, which offers a great introduction to algebra.

A task as simple as measuring instantly emphasizes the importance of fractions in addition, subtraction, multiplication, and division, and the tape measure provides an easily understandable visual reference.

— Lines and Planes —

Practical geometry comes into play in the use of straight lines in marking curved surfaces, as when springing a chalkline dead amidships on the hull bottom to determine where to center the keel timber.

The saying that "carpentry is geometry" also applies to boatbuilding, which relies on many of the spatial truths described by geometry.

Lines are a basic geometric building block. There are straight lines throughout a boat; they're just usually bent over curved surfaces.

Using the chalkline to mark the centerline on the bottom, and then two parallel lines where the edges of the keel will lie, demonstrates that the shortest distance between two points is indeed a straight line.

When the chines are beveled to receive the bottom panel, another straight line is the straightedge used to check if enough of the chine has been planed away. (Planing the bevel on the chines is the creation of a geometric plane through the process of subtraction. Every time you make shavings, you are subtracting. Hmm, subtraction without numbers—what a concept!)

The concepts of parallel and perpendicular lines are fundamental to both geometry and to almost any building process. Whenever you have two lines perpendicular to the same line, you've created two parallel lines. Therefore, the center frame and transom are parallel in plan view, because both are perpendicular to the boat's centerline. Thwart edges are parallel to one another, and the center frame is perpendicular to the keel. Also, when drawing the shapes of the side and bottom panels, all the station lines are parallel to each other because they are perpendicular to the baseline.

If you choose to make your own gauge to locate the nails that will fasten the bottom to the chines, you're using the concept of parallel lines to make a tool that will mark a line you can't see.

Demonstrating the basic properties of planar geometry is simple because all the boat parts start with faces that are flat, geometric planes. Many of these flat planes change into curved planes, or surfaces, as they are bent into their final shape to form the boat. Although bending the flat side panels around the hull's flaring center frame is a simple mechanical process, it takes complex math, like differential geometry, to describe the resulting curved surfaces. This is an opportunity to challenge more advanced students and introduce the usefulness of more advanced math. Without this math built into their software, computers wouldn't be useful design tools.

An understanding of planes also affects more basic tasks. The ability to use a handsaw, for example, depends upon the sawyer's ability to line up his saw, wrist, and shoulder in the same geometric plane.

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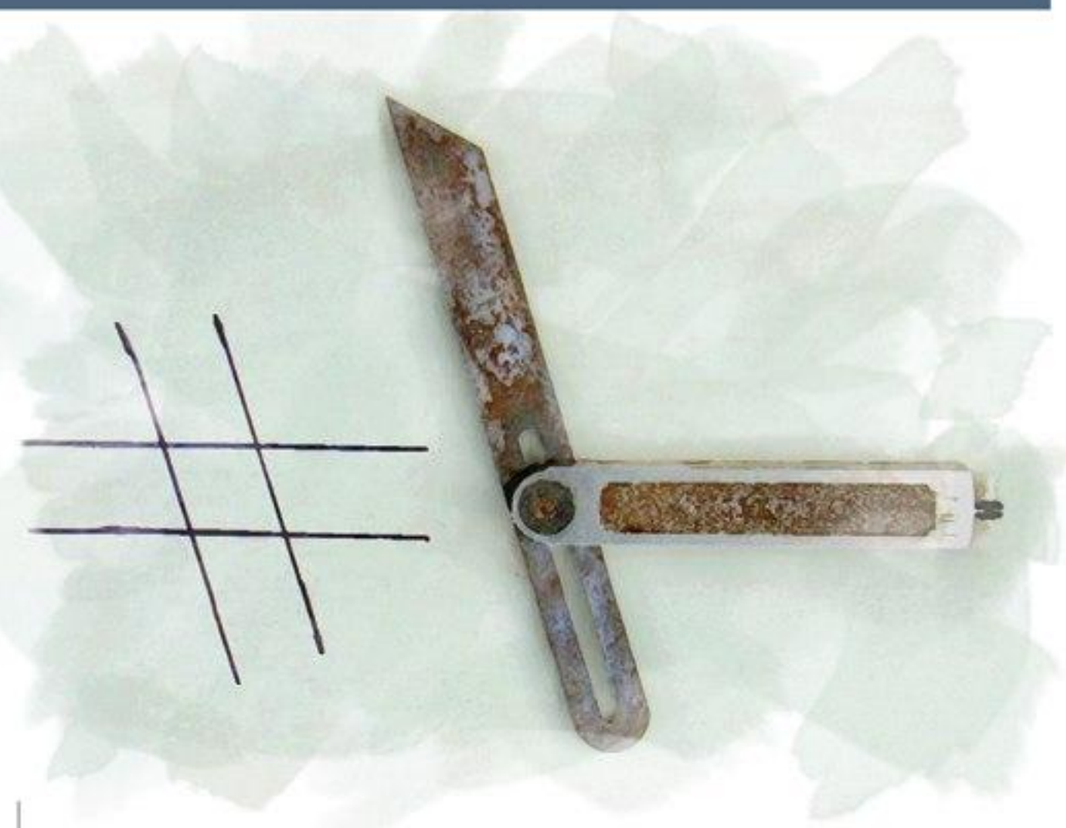
— Angles —

The use of a bevel gauge is a great way to demonstrate the principles of parallelism, supplementary angles, and corresponding angles.



When two pieces of wood meet, they make an angle. Where the boat's sides meet the stem is a good example of an acute angle, and where the center frame extends across the bottom and up the side is a good example of an obtuse one. Have your builders measure angles using a bevel gauge and then read the angle on a protractor, which will help them to understand degrees.

The bevel gauge is a great teaching tool. In the classic geometry textbook, the tool is represented by the illustration of two sets of parallel lines intersecting, making corresponding and supplementary angles come alive. Parallel lines once again prove themselves useful. The bevel gauge will get a lot of use when marking the compound angles on the ends of the chines and deckbeam.

Isosceles Triangles—Isosceles triangles occur at almost every step of boatbuilding. They first appear when the stem, center frame, and transom have to be lined up. An isosceles triangle's centerline creates two symmetrical right triangles and is perpendicular to its baseline. By creating symmetrical shapes, isosceles triangles help a boatbuilder make sure one side of the boat measures the same as the other. If the sides are different, the boat will not only look funny but will tend to go in circles.

Isosceles triangles can also be used to erect station lines in the panel layout, by using the basic "arc scribe" geometric construction. In this method, relatively short arcs are marked on the baseline on both sides of a starting point that is also on the baseline. Then, somewhat longer arcs are marked from these new points to cross at a point above the baseline; marking a straight line from the starting point to where the two new arcs cross creates a line that is perfectly perpendicular to the starting point.

Marking points equidistant from the stem, for example, to accurately position molds, frames, or oarlocks—a process boatbuilders call "horning"—demonstrates the use of isosceles triangles.

Right Angles—Right angles are another basic geometric element. Even though we think there aren't many right angles in boats, they are very important to the building process. The corners of plywood panels and dimensioned lumber are all 90 degrees. We've already mentioned how the center frame and transom are perpendicular to the boat's centerline. The students will use framing squares when marking the center frame's location on the side panels. They'll also use a square resting on the top of the chine to mark the locations of the frames. Measuring along a right angle from a given reference line is the only way to get a true measurement, such as altitude of a triangle. It's also how your builders will use a combination square to measure from the sheer to establish the height of the seat riser.

— Algebra —

Laying out shapes such as molds requires the use of x- and y-axis coordinates, providing an opportunity to introduce algebra.

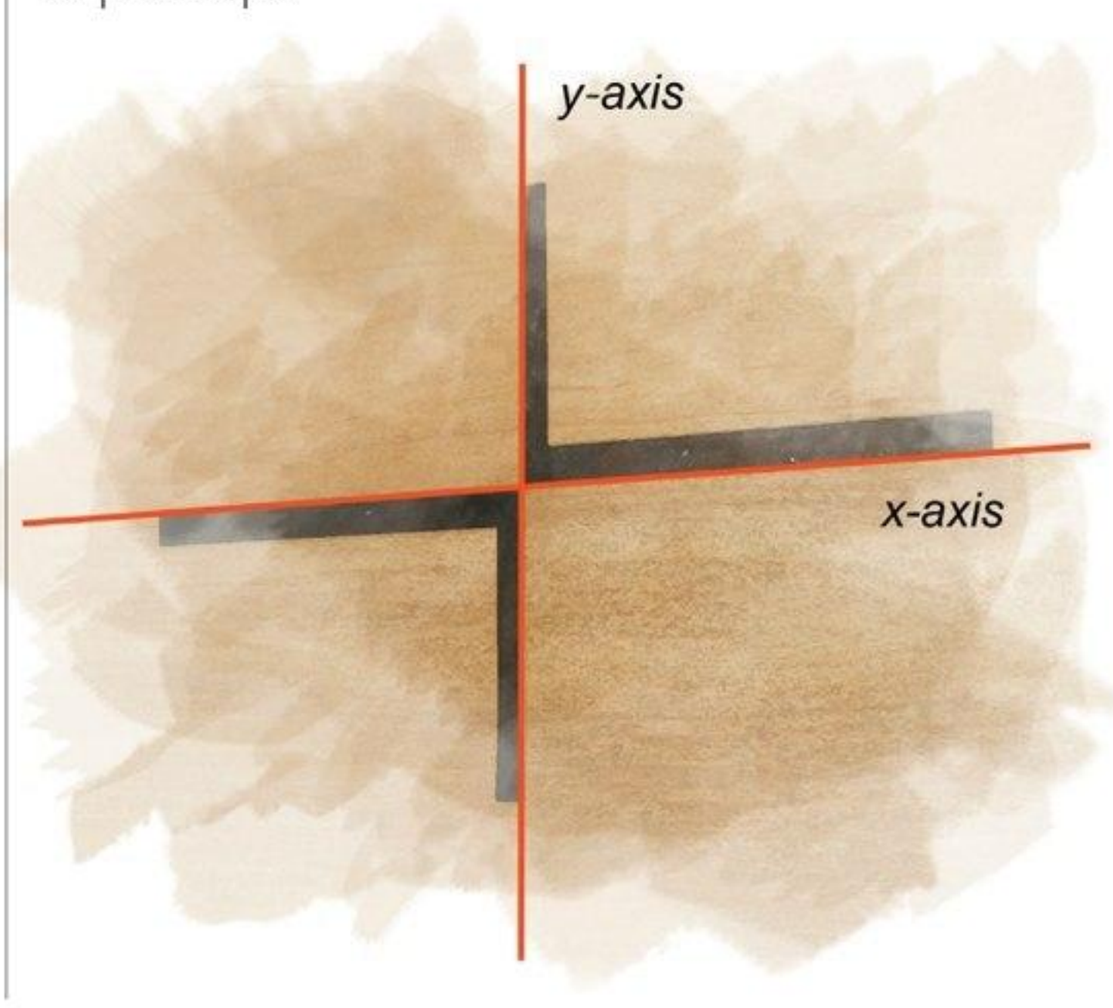
Each year, it seems that we ask kids to learn algebra at a younger and younger age. Yet, even though they may learn the subject in seventh grade, they may not have a chance to apply it in a class, other than math, until they take chemistry, usually in the tenth grade. Boatbuilding offers multiple ways to introduce algebra while (or even before!) kids are learning the subject in math class.

Coordinate planes are used to lay out panel shapes. Remember the perpendicular "x" and "y" axes intersecting at a point of origin? Every point on a side or bottom panel has x and y coordinates. The widths on either side of the bottom panel's centerline are really positive and negative numbers. And scarf joints can be considered one example of the rise and run of a slope.

Every kid wants to know, "How many people will this boat hold?" Algebraic formulas can calculate the answer. Once you have calculated the underwater area of the skiff's cross sections and plot those points on perpendicular lines at each station, you can draw the resulting curve, called a curve of areas. Figuring the boat's underwater volume from this curve of areas is a great example of how a formula such as Simpson's Rule (look it up!) comes into play when facing challenges like trying to calculate the total volume of the boat's underwater shape. Then, a little more multiplication using the ratio of water's weight to the boat's volume gives you its displacement, which can be used to determine its capacity. It's pretty complicated math to answer a simple question, but, again, it's a great opportunity to challenge students and to show them that complicated-looking formulas have real-world uses.

Quadratic equations are intimidating and may seem useless for most algebra students (and $ax^2 + bx + c = 0$ still makes me nervous). Yet, you can make factoring them familiar when you show your builders that doing so depends upon the same concept they used for finding the least common denominator when adding measurements that are expressed in fractions.

A couple of framing squares on a piece of plywood (seen from an oblique angle in this photo) can easily represent coordinate planes and demonstrate how to plot slope.



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— Integrating the Project into the Classroom —

Many lessons can be learned from building a simple skiff, but they need to be coordinated with a teacher's parallel efforts in the classroom.

As a society, we tend to think schools are the places where kids should learn math. Building a boat to teach math can often occur in the classroom. If you're going to build a boat in conjunction with a school, finding a good teacher as your partner is critical. A major part of your job is to support that teacher. You are building the boat to help his or her students learn math and apply it. You need to be able to function in the teacher's world and be aware of the realities that govern his or her work.

In the United States, the national Common Core Standards, or your state's educational standards, determine how the students and teachers are judged. Whatever their shortcomings, these standards and their accompanying tests at least indicate which skills our students need to acquire. From the test results I've seen, the math skills inherent in building a skiff—especially fractions and geometry—are exactly the ones that our kids aren't learning very well.

Fifth graders need to divide fractions and plot points using a coordinate plane. Eighth graders need to understand the angles created when "parallel lines are cut by a transversal." (Sounds like a bevel gauge to me....) Geometry students have to "apply geometric concepts in modeling situations, explain volume formulas and use them to solve problems, and visualize relationships between two-dimensional and three-dimensional objects." Algebra students must "create equations that describe numbers or relationships and represent and solve equations and inequalities graphically." When you build a boat, you have the opportunity to make these abstract words from the standards concrete.

So, we have to speak the current language of education. Teachers and administrators need to see that the time spent building a boat results in increased math competencies. A couple of pieces of advice for those who want to pursue this possibility:

• Don't be afraid to use simple tests. Testing before the class tells you the skills your students already have as well as those they need to learn. A test afterward shows the students (and the school) what you've been able to accomplish. We usually use five-question quizzes.

• Bring other resources, contacts, and connections into the boatshop or classroom to support the teacher and serve the students. When we build, we always bring in volunteers who can talk about boats, work individually with students, and let the kids hear about the importance of math from someone other than their teachers.

You have a way to make learning math fun, and useful. Do it. We'll help.

For additional information, contact Joe Youcha at The Alexandria Seaport Foundation, P.O. Box 25036, Alexandria, VA 22314 or see www.building2teach.com. Building To Teach has teaching materials, hands-on exercises, and instructor training opportunities available.

— Using Models to Help Teach —

When building a full-sized boat isn't possible or practical, having a class build boat models can go a long way toward illustrating the same principles, and all of the students will have something they can call their own to take home and treasure.

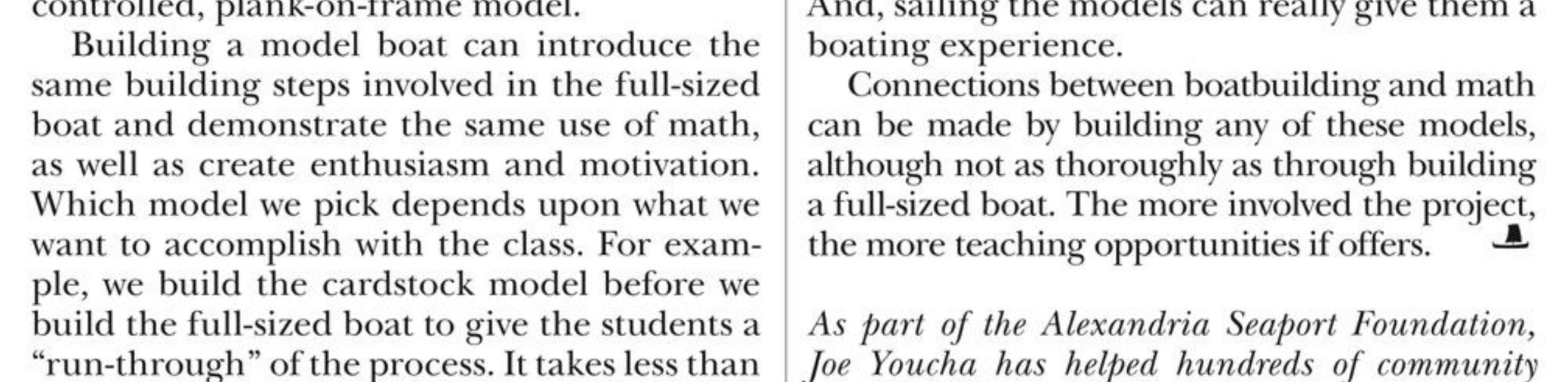
Models are also great teaching tools. Sometimes you can't build the full-sized boat or don't want to. Sometimes there's not enough time, space, or money, or maybe it doesn't fit the program design if you want all the kids to go home with something of their own. In our programs, we use three models that are based on Bevin's Skiff: a cardstock model, a "pinewood derby" sailer, and a radio-controlled, plank-on-frame model.

Building a model boat can introduce the same building steps involved in the full-sized boat and demonstrate the same use of math, as well as create enthusiasm and motivation. Which model we pick depends upon what we want to accomplish with the class. For example, we build the cardstock model before we build the full-sized boat to give the students a "run-through" of the process. It takes less than an hour, tests their measuring skills, and gives them something to take home. The pinewood derby model is the next step up. Cut from a block of 2×4 with dowel masts and plastic sails, this simple model introduces measuring, fractions, and basic geometry—plus the kids can sail it and take it home.

The RC model is more complex. It's built up plank-on-frame, just like the full-sized skiff. We use it as a substitute for building the full-sized boat and when we're working with a class over a longer period of time. It's small enough so that all the kids can build their own boats. And, sailing the models can really give them a boating experience.

Connections between boatbuilding and math can be made by building any of these models, although not as thoroughly as through building a full-sized boat. The more involved the project, the more teaching opportunities if offers.

As part of the Alexandria Seaport Foundation, Joe Youcha has helped hundreds of community groups build their own boats. With a new program called Building to Teach, he's now helping boat building groups learn how to teach math as part of that process.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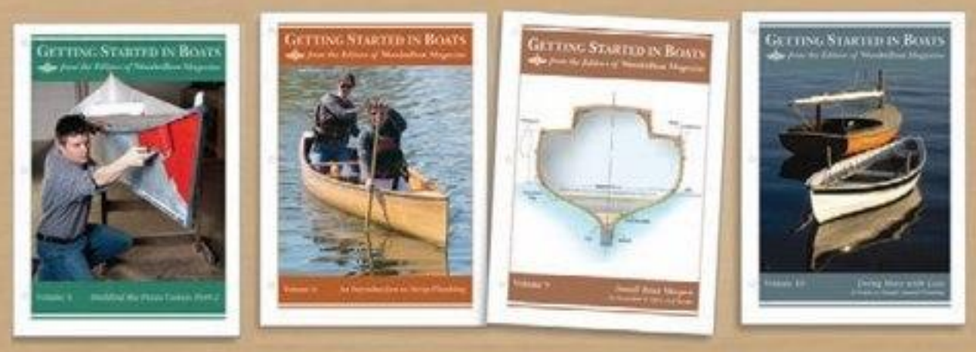

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The Boatbuilding And Rowing Challenge

Presented by *WoodenBoat* magazine

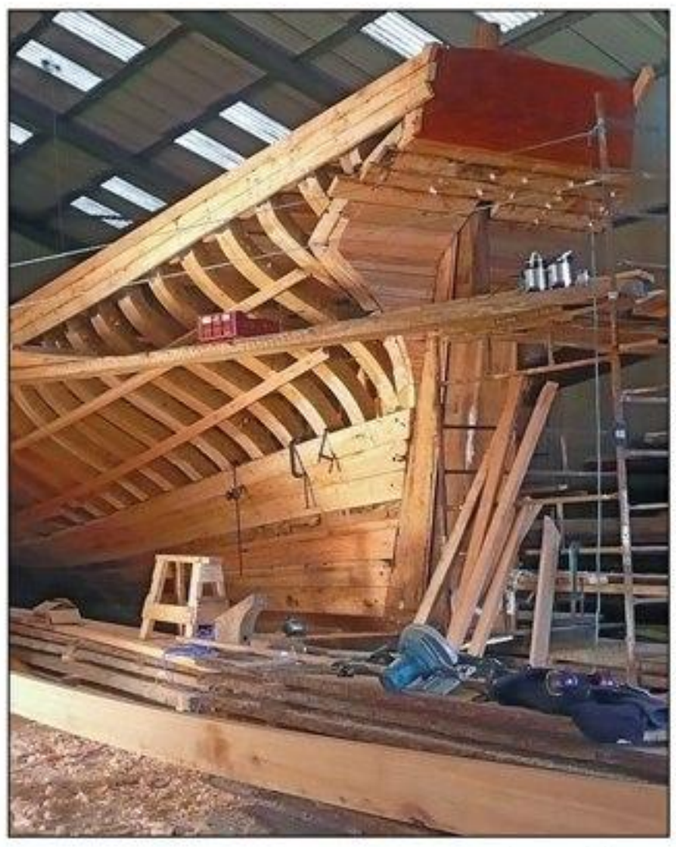
***WoodenBoat*'s** Boatbuilding & Rowing Challenge (BARC) is the beginning of a grassroots effort which could be emulated around the world. It's an endeavor to involve communities and, in our specific case, high school programs, in the team-building aspects of boatbuilding and then competitively rowing one specific boat: Iain Oughtred's 22', 330 pound St. Ayles Skiff, with a crew of four rowers and one helmsperson (coxswain). Using Alec Jordan's (Jordan Boats in the UK) CNC's files and his cooperative agreement with Hewes & Company in Blue Hill, Maine, *WoodenBoat* is spearheading BARC programs in five downeast Maine high schools.

For further information, please see our website: http://BARC.woodenboat.com

Washington, are available. Devlin has an agreement with **West Satsop Boatworks** of **Montesano** to provide computer numerically controlled cutting of kit parts for ten different designs: 5×10 Skiff, Pond Skipper, Oarling II, Candlefish 13, Duckling 17 Rower, Eider, Litl Coot, and three variations on the Pelicano outboard day boat. Meranti or okoume plywood variations are available, with panels easily joined by "puzzle-splice" joints. More kits are promised for the future. *Devlin Designing Boatbuilders, 3010 37th Ave. S.W., Tumwater, WA 98512; www.devlinboat.com. See also www.westsatsop.com.*

■ After a hiatus, the **Waters Dancing Boat Kit Company** of **Edmonton, Alberta**, has resumed shipping its kayak kits to the **United States market**. The company, which was founded in 1955 by Jim Moore and is now run by his son, Donald, uses computer numerically controlled cutting machines to manufacture kits for twelve variations on its kayak designs and two types of canoes. Its storefront, BoatCraft, markets completed boats along with wooden boat building supplies such as plywood, epoxy, paint, fastenings, and hardware for all types of boats. *Waters Dancing Boat Kit Company, 6316 106th St., Edmonton, AB T6H 2V3, Canada; 780–437–4919; www.watersdancing.com; see also www.boatcraft.com.*

■ In Cornwall, England, **Marcus Rowden** and **Freya Hart** are leading the construction of a **replica** of an 18th-century, 65′, **three-masted lugger** named **GRAYHOUND**. Similar in size and rig to the famous Brittany luggers LA CANCALAISE and LA GRANVILLAISE (see WB No. 158), she is being constructed for private ownership with charter sailing in mind, accommodating eight guests with a combination of regular and volunteer crew. GRAYHOUND's lines are taken from British Admiralty drawings of a 1776 construction by John Parkin, who built fast luggers both for smugglers and for the revenue service that chased them down. After the Revolutionary War broke out in America, the original was turned to service as a British 14-gun privateer. The replica is being built using traditional double-sawn frame construction, with trunnel fastenings. Volunteers are helping with the construction, and the couple are raising money in various ways, including a "buy a trunnel" drive for a project that is part business, part maritime historical project, and part educational



COURTESY GRAYHOUND LUGGER SAILING

Good progress has been made so far on a traditionally constructed three-masted lugger GRAYHOUND, 65′ on deck, in Cornwall, England.

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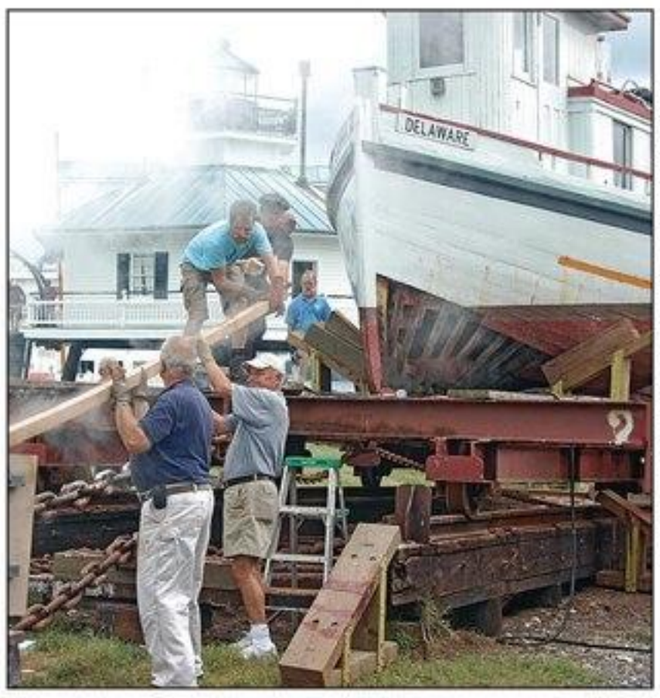


COURTESY CHESAPEAKE BAY MARITIME MUSEUM

Nearing her centennial, the tugboat DELAWARE is having extensive work done at the Chesapeake Bay Maritime Museum.

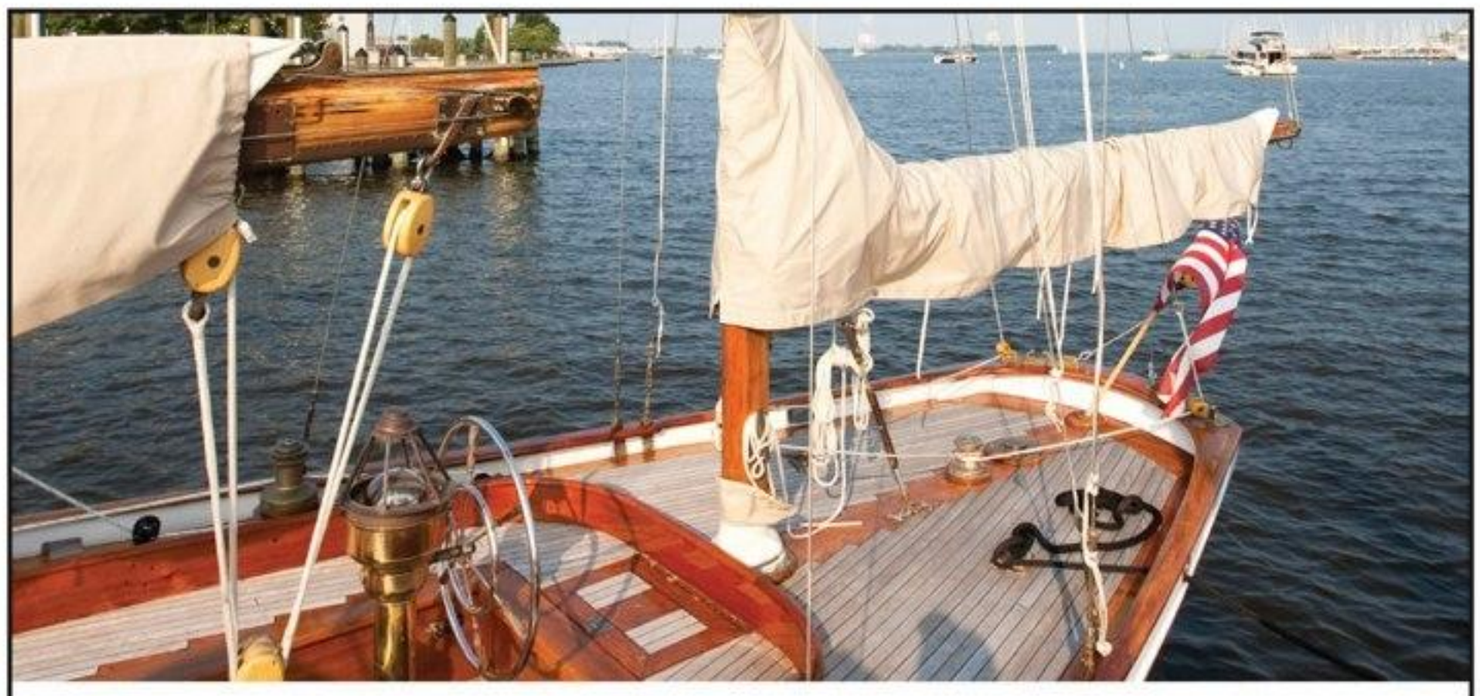
effort. GRAYHOUND is being built not far from Plymouth, at Millbrook on the Rame Head peninsula, which is close to Cawsand, where the original was probably built. She is 65′ LOD, with a sparred length of 108′, a beam of 19′, a straight keel with a lot of drag aft giving her a draft of 10′, and carrying 3,500 sq ft of sail. A September 2012 launching is expected. *Grayhound Lugger Sailing, Southdown Marina, Southdown Quay, Millbrook, Torpoint, Cornwall, PL10 1HG, England; +44 (0) 792–264–8472; www.grayhoundlugger.blogspot.com.*

■ The **Chesapeake Bay Maritime Museum** in St. Michaels, Maryland, is **restoring** the **1912 river tugboat DELAWARE**, which is part of the museum's collections. The 39′8″ LOA boat was built in Bethel, Delaware, by William H. Smith, and in 1929 she moved to Easton, Maryland, after being bought by James Ireland, who worked with John H. Bailey in marine construction. Bailey later became the sole owner. DELAWARE was laid up in the late 1980s. The project includes replacing six strakes of portside bottom planking and repairing floor timbers, frame heels, and the keel as needed. A deck carlin will also be replaced, along with part of the deck. Her lower guards, 2½″×2½″×25′, will be restored to their original configuration. *CBMM, P.O. Box 636, St. Michaels, MD 21663; 410–745–2916; www.cbmm.org.*

Offcuts

News comes that management of the **troubled Seaport Museum of New York** on South Street in Manhattan **will be taken on** by the **Museum of the City of New York**, at least for 18 months. The deal, facilitated by a grant of $2 million, saves the Seaport from imminent danger and holds out the prospect of new leadership. The first priority, according to a presentation by Susan Henshaw Jones, director of the MCNY, is to get some life into the site by rejuvenating programs to give the museum a higher profile. This would be a good time, needless to say, to show support by becoming a member. *Seaport Museum of New York, 12 Fulton St., New York, NY 10038; www.seany.org. Museum of the City of New York, 1220 Fifth Ave., New York, NY 10029; www.mcny.org. See also www.saveourseaport.wordpress.com.*

Pamela Bates, the **executive director** of **Lowell's Boat Shop** in Amesbury, Massachusetts, has won the National Trust for Historic Preservation's 2011 **Peter H. Brink Award for Individual Achievement**. On her watch, which has been entirely as a volunteer, a new organization was formed to run the combination



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boatshop and museum, a sizable grant was won for extensive building restoration (see Currents, WB No. 213), more boats are being built, and rowing events are again part of life on the Merrimack River. A tip of the hat and a raise of the pint to her, if you please. *Lowell's Boat Shop, 459 Main St., Amesbury, MA 01913; 978–834–0050; www.lowellsboatshop.com.*

TOM JACKSON

A new 65,000-sq-ft building nearing completion will house Seattle Central Community College's Wood Construction Center, which incorporates a boatbuilding program with roots that go back to 1936.

At Washington State's **Seattle Central Community College**, a **new building** housing the Wood Construction Center is nearing completion. The Center encompasses the **Marine Carpentry** program, under the direction of Gordon Sanstad. He is also the sole instructor since lead instructor Dave Mullins's retirement in fall 2010. Sanstad says the building will have a total of 65,000 sq ft, housing programs of which the boat carpentry course is one part. The program, the successor to the Edison Boatbuilding School founded in 1936, was incorporated into the community college system in 1967.

Bruce Mackenzie has been named **director** of the **Workshop on the Water** program at the **Independence Seaport Museum in Philadelphia, Pennsylvania**. During his career as a boatbuilder and educator, he has, among other things, started a boatbuilding program at Cape Fear Community College in North Carolina and served as senior shipwright for the USS CONSTELLATION in Baltimore, Maryland. He succeeds John Brady, who was earlier named executive director of the museum.

Maybe it's a sign of the times, but at the **Newport International Boat Show**—a venue not known as a seething hotbead of wooden boat and small craft interest—comparatively small boats won prizes this year. One of them, the **Destino 20** mahogany runabout by a new wooden boat building company in Connecticut, took honors for "**best powerboat under 30′**" and "**best new powerboat.**"

COURTESTY DESTINO YACHTS

A 20′ runabout by Destino Yachts of Connecticut won powerboat awards at the Newport International Boat Show in 2011.

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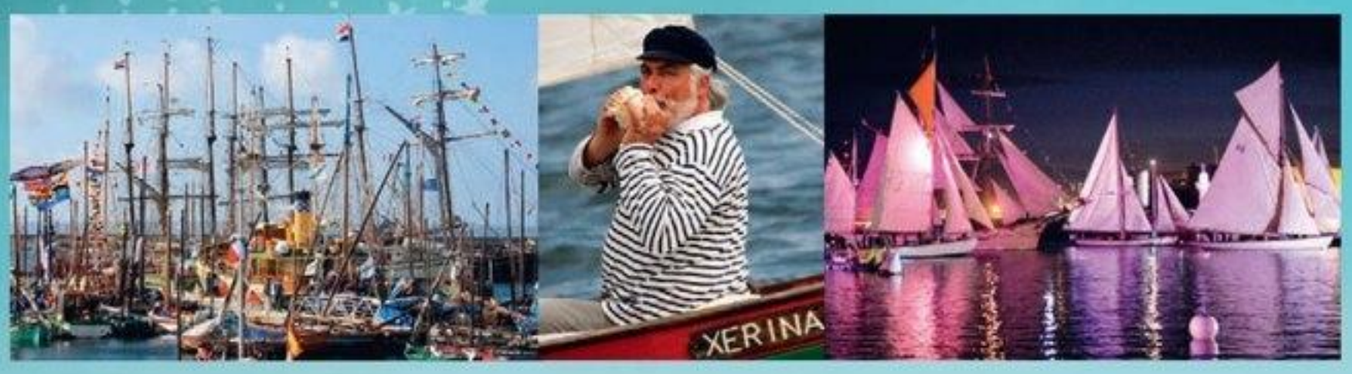

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The company, founded by Ole Nielsen, is at 10 Pawson Rd., Branford, CT 06405; 860–395–9682; www.destinoyachts.com. The "best sailboat under 30′" and "best new sailboat" was a **BayRaider 20**, alas a fiberglass version, by **Swallow Boats** (Gwbert Rd., Cardigan, Wales, SA43 1PN, U.K.; +44 (0) 123–961–5482; www.swallowboats.co.uk). Swallow Boats started off designing boats for kit construction, using precut plywood panels and epoxy. Although it has moved into the 'glass-boat market, it still makes plywood kits for several of its designs.

Sparkman & Stephens, the famous New York City yacht design and brokerage company, has **moved its headquarters** office to **Greenwich, Connecticut**, some 30 miles away from Manhattan, where it had been located for 82 years. The company, founded by Olin Stephens and Drake Sparkman, already has branch offices in Newport, Rhode Island, and Fort Lauderdale, Florida. *Sparkman & Stephens, 170 Mason St., Greenwich, CT 06830; 203–687–4700; www.sparkmanstephens.com.*

Across the bar

■ **Ole Crumlin-Pedersen**, 76, October 14, 2011, Roskilde, Denmark. Mr. Crumlin-Pedersen was only 21 years old when he approached the Danish National Museum about doing something to study an old ship, which he believed was from the Viking age, known to be at the bottom of the Roskilde Fjord near Skuldelev. The careful excavation of a wreck that had been nicknamed locally as "Queen Margrete's ship" turned out to be not one but five Viking-age ships, which together provided an uncommonly well-rounded view of the era's boatbuilding techniques. Mr. Crumlin-Pedersen was a leader in the excavation, which began in 1956 with the placement of a cofferdam so the site could be drained, a technique that became a model for shoal-water seafloor archaeology. Mr. Crumlin-Pedersen went on to play a key role in founding the Viking Ship Museum at Roskilde, which houses the excavated remains. In addition, the museum built accurate replicas of all five ships to study their construction, use, and handling (see WB No. 206). Another of his legacies is the museum's exceptional record of publications, including many books by, or in collaboration with, Mr. Crumlin-Pedersen himself, focusing on Scandinavian and northern European maritime culture and history (see www.vikingeskibsmuseet.dk). "We, who worked closely with Ole, knew him as a man with a mission," museum director Tinna Damgård-Sørensen wrote. "Professional to the bone. With a heart that beat in rhythm with the waves."

■ **Adrian Mount Pearsall**, 85, September 6, 2011, Washington Crossing, Pennsylvania. Only two years after graduating in 1950 as an architectural engineer from the University of Illinois, Mr. Pearsall started Craft Associates in the basement of his home in Kingston, Pennsylvania. The company became prominent in modern furniture design and manufacture in the 1950s and 1960s, when it was the largest employer in Wilkes-Barre, Pennsylvania. One of Mr. Pearsall's passions was sailing and restoring classic boats, and among the yachts he restored were the 1905 N.G. Herreshoff–designed New York 30 AMORITA, the W. Starling Burgess–designed 50′ 1913 P-class sloop CHIPS, the 1924 Herreshoff Watch Hill 15 EMMA, and the 1926 William Fife–designed 72-footer HALLOWE'EN.

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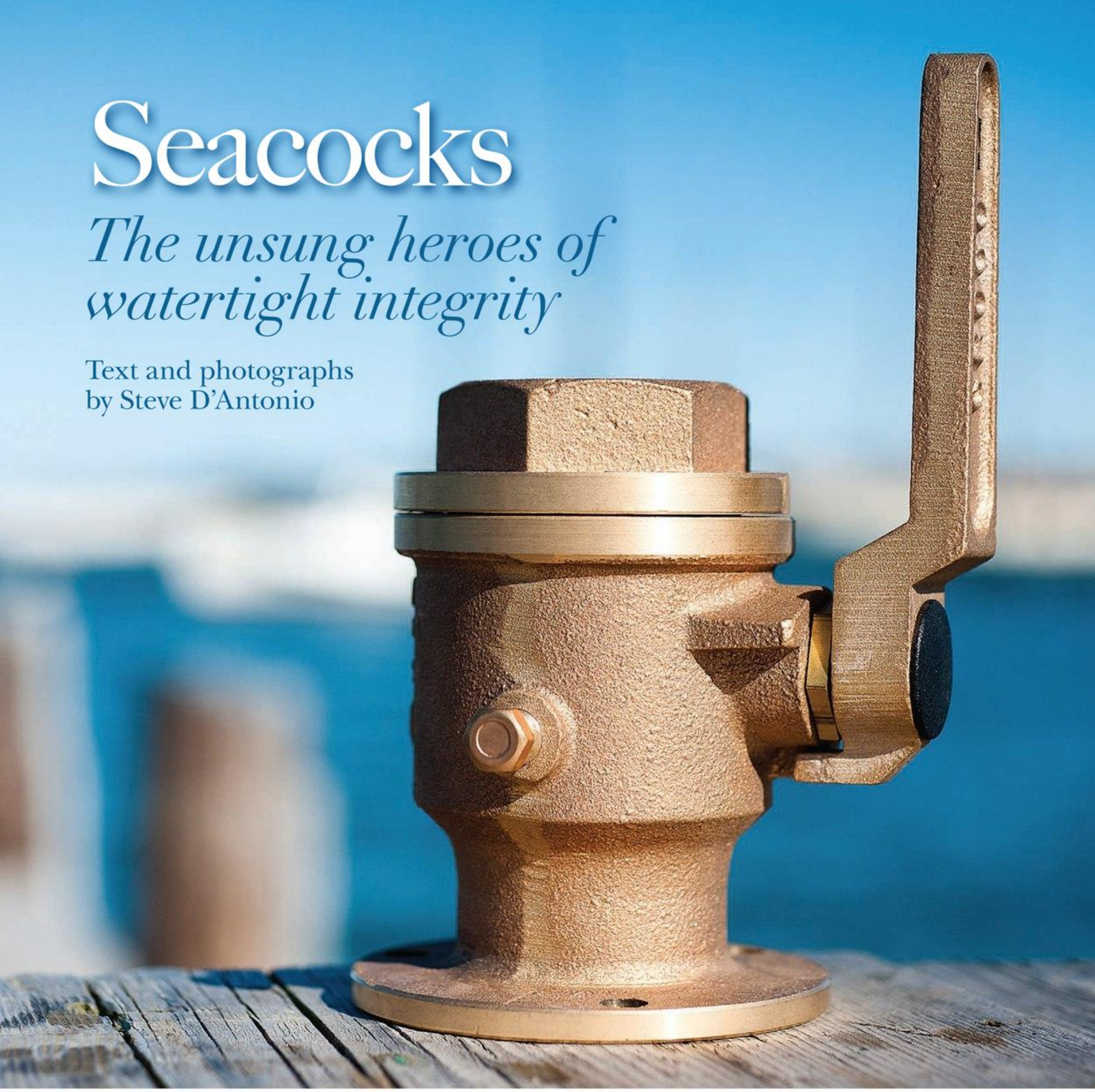
Seacocks

The unsung heroes of watertight integrity

Text and photographs
by Steve D'Antonio



ALISON SHAW

The volume of water even a small hole in a boat's bottom will admit can be astounding. If you've ever removed a transducer for cleaning or forgotten to install a garboard plug when launching your boat, you know that the momentary gush of water is alarming. There is value in witnessing this force of nature, as it can demonstrate the severity of a failed below-the-waterline hose, through-hull fitting, or seacock.

Let's say that hole in the boat is 1″ in diameter and 3′ below the waterline—the approximate dimensions of an engine's raw-water intake (raw water is simply the water in which the boat is floating, whether it's salt, brackish, or fresh). That hole would admit 34 gallons per minute, or 2,040 gallons per hour. You might be tempted to think, "I have a 2,000-gallon-per-hour pump that can almost keep up." However, the actual

***Above*—Seacocks are the valves that can stem the flow of raw water in through-hull fittings. Install them correctly, maintain them well, and they'll give decades of reliable service.**

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capacity of nearly all bilge pumps as they are installed varies significantly from their rated output; in the tests I've conducted, output can be reduced up to 50 percent by, among other things, resistance imparted by hose length and the suction lift, as well as restrictions such as check valves or undersized plumbing. Reduction in voltage due to wiring that's too small also diminishes the output. And, as the water enters the boat, the breach sinks ever deeper, increasing the pressure and, thus, the rate of flooding. In less than five minutes, the weight of water that will have flooded the boat through that 1″-diameter hole will be in excess of 1,000 lbs.

Nearly all raw-water plumbing failures are preventable. In my experience as a marine mechanic, boatyard manager, and systems consultant, I've seen all manner of seacock-related defects and maladies, too many of which have led to failure and flooding. There are two primary types of failures. The first and most common is caused by a breached raw-water hose. While serious, such flooding is often quickly and easily stemmed simply by closing the seacock that is admitting the water (this assumes the seacock has been installed in an accessible location and is properly maintained—and it assumes that someone is aboard the boat). The second, less common but significantly more serious failure involves the through-hull fitting, seacock, or related rigid plumbing. Such a failure is nearly always catastrophic.

THROUGH-HULLS AND SEACOCKS DEFINED

Through-hull fittings are the threaded pipes with a mushroom-like end visible on the exterior of the hull. The seacock itself is simply the valve that is threaded onto the through-hull fitting. Most, if not all, of the through-hull's threads will be hidden by the seacock, as indicated by the marked threads in this photo.

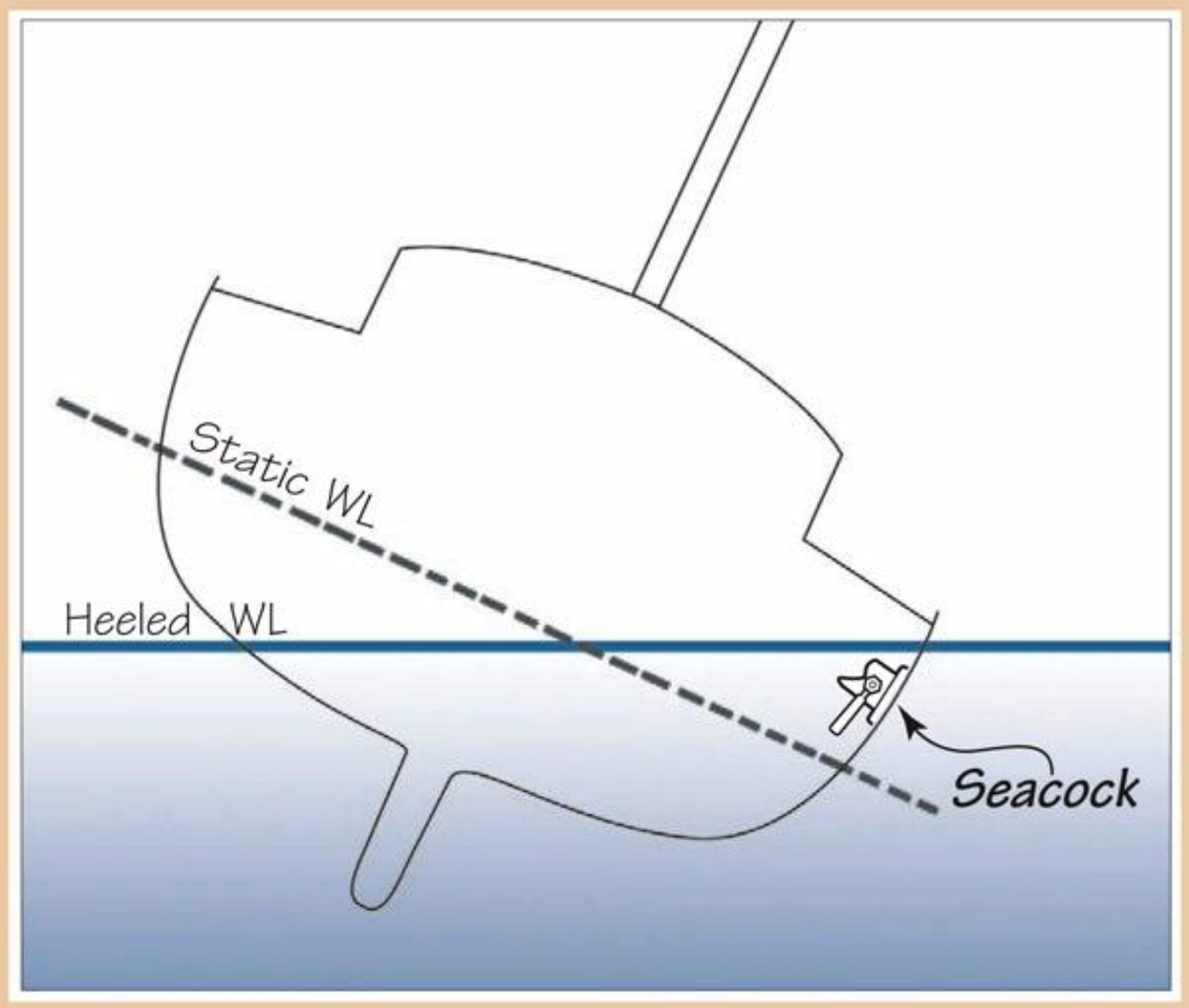
Standards and Guidelines

There are few, if any, binding guidelines for the design and installation of seacocks in recreational boats. There are, however, widely accepted standards set forth by the American Boat and Yacht Council (ABYC). The value of relying on these standards, even if they aren't mandated by any governing body, is that they eliminate "field-engineered," seat-of-the-pants installations. They may also be required by your insurer. As a professional who has worked in the marine industry for nearly 25 years, I've seen countless cases of inferior and just plain incorrect seacock installations, some of which had already failed, yet were still defended by their installers with the refrain, "That's the way we've always done it and it's never been a problem." Rest assured, just because it hasn't failed doesn't mean it's right or that it won't fail at some point in the future. Relying on an independent, industry-recognized standard will pay dividends. The following are highlights of the ABYC's recommendations.

Top left—Be selective when choosing plumbing components for use with seacocks—or for any seawater application. Brass, because it is susceptible to a form of corrosion known as dezincification, must never be used. Here, a brass pipe-to-hose adapter crumbled when the hose was removed. _Bottom left_—Avoid stressing seacocks with the attachment of long, rigid pipe assemblies. In this case, an integral seacock and sea strainer failed because of the leverage imparted by the strainer on the seacock valve.

WHAT IS THE HEELED WATERLINE?

It is important to clearly understand the phrase, "below the maximum heeled waterline." On a sailboat, this is defined as any penetration that's submerged when the boat is sailing rail-down. For powerboats, the guideline is somewhat more lenient, encompassing hull penetrations that would be submerged if the boat were to heel up to 7 degrees. My personal preference for powerboats calls for seacocks to be installed on penetrations within the 7-degree guideline or on ones that are less than 12″ above the static waterline, whichever describes a larger or taller zone.



Where Seacocks Are Required

The ABYC recommends that "All piping, tubing or hose lines penetrating the hull *below the maximum heeled waterline* (see sidebar), under all normal conditions of trim and heel, shall be equipped with a seacock to stop the admission of water in the event of failure of pipes, tubing or hose." (The emphasizing italics are mine.) One exception to this rule includes engine and genset exhaust outlets, which do not require a seacock. And in 2008, the standard was revised to allow the use of reinforced piping or hoses that resist kinking and collapse where there is no seacock on any penetration below the heeled waterline and above the load waterline.

This heeled-waterline guideline is frequently ignored by builders and repairers. If the through-hull is above the level waterline, then most people simply assume no seacock is required. The fact is, if it's below the heeled waterline, then a seacock is recommended unless the exception noted above comes into play.

Thread Compatibility

The ABYC guideline says, "Threads used in seacock installations shall be compatible (e.g., NPT to NPT, NPS to NPS)." Tapered-thread NPT valves are routinely, and wrongly, attached to a straight-thread NPS through-hull fitting, and this often results in no more than two or

Thread engagement is a critically important aspect of seacock installations, and the threads that connect through-hull fittings to seacocks must be compatible. On the left, a through-hull fitting is properly paired with a flanged seacock, both fittings utilizing the straight NPS thread type. The black line on the through-hull represents engagement of at least 10 threads when mated with the seacock. On the right are a through-hull fitting and an in-line ball valve, a common albeit incorrect pairing. It represents two major violations of the accepted standards: incompatible threads and no load-distributing flange on the valve. Meager thread engagement is indicated by the black line on the through-hull.

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MATTHEW P. MURPHY

This Marelon seacock is installed in a cold-molded sailboat. Note the UL tag, approving its use as a "sea valve."

three threads of engagement—far fewer than the eight or ten threads afforded by matching fittings—and, therefore, far more prone to failure.

These ABYC strictures leave little doubt as to where seacocks are required. There's more to a good seacock installation, however, than simply complying with these recommendations. In order to be considered secure, reliable, and functional, seacocks must meet several material and installation parameters.

Ready Accessibility

If a raw-water component—a hose, strainer, or even a seacock itself—fails, the resulting flooding may quickly inundate the batteries, alternator, and other electrical gear. The search for the leak will likely require that you intimately know your boat and where each seacock is located. You may be conducting the search in the dark and by feel.

You can prepare for such an event by thoroughly familiarizing yourself with the locations of all through-hull fittings, both above and below the waterline. Walk around the boat next time she's hauled out, make a chart of each through-hull location, both above and below the waterline, and then match these up with the hardware on the inside, labeling on the chart each one's function as you go. Ensure that each through-hull penetration is equipped with a seacock, if required; ideally, each seacock itself should also be charted. If you cruise with crews who aren't as familiar with the boat as you are, post the chart in a conspicuous location—at the navigation station or even in the head, where it will be viewed while the occupant is sitting down.

There's another accessibility issue that involves seacocks and through-hull fittings: You must be able to get to them easily, without the need for tools and without having to move large quantities of provisions, gear, or permanently installed equipment. I recently inspected a boat aboard which a set of house batteries had been installed on a shelf that was located over a seacock. The only way to reach that seacock was to unship the batteries. After doing so, the seacock was, not surprisingly, found to be seized. In a flooding emergency, it's likely this seacock could not be reached in time to be closed.

Materials

The materials from which seacocks, through-hull fittings, and related plumbing components are made play an important role in their longevity and reliability. The selection is not as straightforward as it may seem because alloys whose characteristics differ significantly may look alike. Ideally, you should select only seacocks that are UL-approved "sea valves" or those that carry an ABYC approval. Be aware that most generic, in-line, UL-approved valves are not "UL-approved sea valves." Many valves carry a UL approval, but only a select few are rated for use as seacocks.

Copper-based alloys are among the most popular for seacocks and through-hulls, and with good reason.

While pure copper lacks the necessary strength for below-the-waterline plumbing applications, when alloyed with certain other metals, it is both strong and corrosion-resistant. Silicon-bronze, sometimes also referred to as 85-5-5-5 because it consists of 85 percent copper, 5 percent zinc, 5 percent lead, and 5 percent silicon, is perhaps the most common alloy used for seacock and other raw-water applications.

Red brass or leaded red brass is yet another copper alloy that is suitable for raw-water applications. Most pipe nipples (short lengths of pipe that are threaded on both ends) are made from leaded red brass. There is one caveat to using any alloy that contains zinc: The zinc content should not exceed approximately 10 percent of the material's make-up. Copper alloys whose zinc content is higher, the most common of which is brass, are susceptible to a corrosion phenomenon known as dezincification. The zinc in these alloys corrodes in very much the same way zinc anodes corrode to protect shafts, propellers, and other below-the-waterline alloys, leaving behind a porous and significantly weakened structure that is often characterized by its pinkish hue. Because of their propensity to dezincify, brass and other copper alloys such as naval brass or Tobin bronze (the latter's name is a misnomer; by definition, bronze alloys are virtually free of zinc), in spite of their nautical-sounding names, should never be used in any raw-water applications. (Leaded red brass whose zinc content is below 10 percent is an exception, and even it should be monitored for dezincification.) This includes components as small and as easily overlooked as drain plugs found on some seacocks and raw-water strainers. Boats have been lost because of the failure of such brass plumbing components. Some brass hardware—in-line valves in particular—is nickel or chrome plated, giving it the appearance of stainless steel. Regardless of such plating, brass must never be used in the aforementioned applications.

Stainless steel should be avoided for raw-water applications. While it's often thought of as a very durable marine metal, it is susceptible to yet another type of deterioration called crevice corrosion. This occurs when stainless alloys are exposed to stagnant, oxygen-depleted water for extended periods, and this especially includes exposure to water-soaked wood. If for some reason stainless steel must be used, ensure that it is of the most corrosion-resistant alloy possible, typically type 316.

Non-metallic or composite materials have gained significant popularity for seacock and raw-water plumbing applications. These materials are immune to all forms of corrosion, and because they are non-metallic do not lead to bonding-induced delignification of their surrounding wood, an important consideration in wooden boats (see WB No. 115). While those attributes make non-metallic seacocks good candidates, there are a few notes of caution. Not all non-metallic or "plastic" components are created equal. Composites are reinforced plastics, much like fiberglass hulls, and are highly desirable and in fact are the only ABYC and UL-approved non-metallic seacock material. Ordinary, unreinforced hardware made from plastics such as PVC, on the other hand, should never be used as seacocks. Most composite seacocks are made from reinforced (reinforcement is key), UV-inhibited nylon or acetyl and polybutylene terephalate, the most popular of which is Forespar's proprietary Marelon. The UV inhibition is critical, even for below-waterline applications, because while the boat is hauled out for storage, those through-hull fittings, particularly the ones just below the waterline, will be exposed to sunlight. The insidiousness of ultraviolet decay should not be underestimated; I've tapped on seemingly sound through-hulls with the handle end of a screwdriver and had them fall off, shearing neatly at the mushroom-head-to-thread interface. Thus, if you have non-metallic seacocks and through-hull fittings, make certain they are made from UV-stabilized, UL/ABYC-approved materials.

Seacock Design

A wide variety of seacocks are currently in use or available today. In my work, I encounter everything from 50-or-more-year-old cone-style valves that remain serviceable and sound, to what I refer to as "swimming pool valves" made from PVC. There are only a few styles that meet the necessary criteria to ensure watertight integrity and reliability. Regardless of the design, every seacock must embody a handful of features. These include: (1) a load-distributing flange, (2) a corrosion-resistant (bronze, stainless-steel, or composite) handle that rotates through no more and no less than 90 degrees of arc, and (3) straight or NPS female threads for full engagement with the through-hull (more on that below).

The 90-degree handle rotation enables the user to determine, at a glance, if the valve is opened or closed, and it ensures quick manipulation. While it's not an ABYC requirement, many seacock flanges include holes for through-bolts or lag screws. These offer an added measure of security in the event the seacock is stressed, if it's struck from within the boat, or in the event of a grounding. In an effort to avoid a zipper-effect hull failure caused by too many holes too close together, I prefer

Cone-style valves are both rugged and reliable if properly installed and maintained. Among their greatest virtues is their serviceability, as they can be easily disassembled, cleaned, lapped if necessary, greased, and reassembled. Left unserviced, however, they are prone to seizure.

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SEACOCK LUBRICATION

Many metallic seacocks include threaded drain ports into which zerk fittings can be installed to pump grease into the barrel of the seacock, allowing lubrication without disassembly. It's worth noting, however, that most grease fittings, unless specifically designed to be submerged (these are available, are often made of Monel, and are costly), should not remain attached to a seacock. When it comes to lubrication, my preference is for Lubriplate's Wheelbearing Grease, which is exceptionally viscous and not easily washed off www.lubriplate.com/products/auto-and-marine/wheel-bearing-grease.html).

lag screws rather than through-bolts for this application.

The aforementioned bronze cone or "legacy" seacocks have served many boats well for decades and continue to do so; while prone to "weeping," these valves are notable for their ruggedness, extreme durability, and virtually infinite longevity. Their primary advantage is that they can be completely disassembled for cleaning, lapping (using lapping compound if necessary), and lubrication. If not maintained, however, they are prone to seizure. Many users have resorted to persuading a stuck handle with a mallet or pipe extension, which often results in a deformed or bent handle. While this approach is not recommended, the good news is that, in most cases, the handle is replaceable. Consistent maintenance is a better option (see sidebar).

The modern version of the cone valve relies on a hard, chrome-plated bronze or stainless-steel ball that's seated against Teflon seals. These ball valves have become extremely popular because of their reliability and low maintenance; they rarely seize unless significant growth occurs on the ball while the valve is closed. The Teflon seals act as wipers, squeegeeing off any slime or minor growth with each rotation. While generally durable, the seals can be damaged by barnacles and other hard growth when the ball is rotated. Eventually, this may lead to some leakage, but I've never seen a ball-valve seacock fail catastrophically.

Gate valves (and similar globe valves) are occasionally pressed into service as seacocks. They open by lifting a round or rectangular "gate" out of the path of the water, and are ubiquitous in household and industrial applications; you likely have a dozen or more in your home for isolating vanity and kitchen sinks, water heaters, and washing machines. They are readily available from plumbing supply and home-improvement stores, and they are much less expensive than UL/ABYC-compliant seacocks. So, what's not to like about these humble valves? Plenty.

In addition to not meeting UL and ABYC standards for use as a sea valve (ABYC guidelines specifically prohibit their use), gate valves are notorious for their propensity to fail when used in raw-water applications. The materials from which they are made, especially the gate stem, often include brass, with its aforementioned dezincification weakness. If the stem corrodes, it will separate from the gate. The insidiousness of this failure is that the user may not realize this has occurred. He or she may believe the valve is being opened or closed because the handle continues to turn, when in fact the gate remains stationary. Speaking of the handle, nearly all are made of ordinary painted steel or aluminum, both of which quickly come to grief in the damp, shipboard environment. Finally, most gate valves are of the in-line variety and as such they lack the necessary load-distributing flange.

Flanged seacocks are inherently stronger than those without flanges because the flange allows loads or stress to be distributed over a larger area, using a principle similar to that of a large washer or backing block under a fastening. The ABYC guidelines call for seacocks that are able to withstand 500 lbs of static, lateral force for 30 seconds without failure. While the flange itself is not necessary for ABYC compliance, non-flanged valve installations will have a tough time meeting this threshold. You're likely to meet the aforementioned thread-compatibility guideline if you use a flanged seacocks, as most have straight NPS threads that match those used on through-hull fittings. At the very least, any seacock or raw-water plumbing installation should be rugged enough to be stepped on without failure. If it's too fragile to endure such loads, then it's simply not suitable.

If properly selected, correctly installed, and adequately maintained (see sidebar), seacocks will serve long and reliable lives. Inspect yours, make certain they meet ABYC standards, and you'll cruise with greater peace of mind.

A former full-service yard manager and longtime technical writer, the author now works with boat builders, owners, and others in the industry as Steve D'Antonio Marine Consulting, Inc.

For a detailed review of the American Boat and Yacht Council's recommended practices for seacocks and through hulls, please refer to the organization's Standards and Technical Information Reports for Small Craft, *Chapter H-27. The document is available for purchase at www.abycinc.org.*

How to Install a Through-hull Fitting

Although there are several common through-hull installation methods, my preferred approach is as follows: For a new seacock installation in a planked hull, select a location that avoids caulked plank seams, then drill a ⅛″ pilot hole. After confirming that the location is correct, use a holesaw to cut a hole that is as close to the through-hull fitting's outside diameter as possible. A snug fit is desirable; a 1½″ hole for a 1″ through-hull fitting is less than ideal, while a 1⅛″ hole for the same through-hull would be fine, as it allows some clearance to absorb plank swelling.

Replacement of an existing seacock with a similar unit requires no hole drilling, provided the existing hole is correctly sized. But the old through-hull and seacock must be removed—a task that presents its own set of challenges. If the components are being held together by polyurethane adhesive or sealant, the through-hull and seacock may be heated carefully using a heat gun; in most cases the sealant's bond will be released once heat is applied.

With a proper hole in the hull, the procedure goes as follows:

1) Shape and install the backing block. The backing block is an essential component for any seacock installation, and it should be proportional to the size of the seacock base. In general, a round backing block that shows a minimum of 1″ to 1½″ between its outside perimeter and the seacock base is appropriate. For a planked hull, a strong, durable hardwood such as oak or locust will serve well; this should be fitted to the hull and liberally bedded in a medium-strength polysulfide or polyurethane adhesive-sealant. In plywood or wood-composite hulls, a block made of ¾″ marine plywood, glued in place with thickened epoxy, is my preference. The block is "clamped" in place with the through-hull itself while the epoxy or bedding compound cures; waxing the through-hull fitting with mold release—or any wax—will prevent it from becoming stuck in the hole when the epoxy cures. Whether you're using epoxy, polyurethane, or polysulfide bedding, any surface you're applying it to should be free of debris, sealant, oil, paint, or grease.

After your bedding of choice has cured, remove the through-hull fitting.

2) Dry-fit and trim the through-hull fitting. The seacock is now ready for its dry-fit. Measure the available threads within the seacock body. With a helper outside the hull, have him or her push and hold the through-hull fitting into its hole so that the visible threads can be viewed and measured. (Remove and save the nut that comes with the through-hull; it will be used later, but not as part of the permanent installation.) There should be sufficient visible threads in the through-hull to engage nearly all of the available threads in the seacock. If the through-hull has too many threads (i.e., if its neck is too long), it will need to be trimmed. Do this by marking the cut's location, then remove the through-hull and install the nut you took off earlier. Clamp the end of the through-hull that's to be cut off in a vise, and don't overtighten or you'll distort the through-hull. Make the cut as straight across the neck as possible with a hacksaw, then unscrew the nut from the remaining portion of the through-hull. The nut will act as a thread chase, removing any burrs or irregularities. It's important that the through-hull not bottom out in the seacock's threads; it's preferable for the through-hull to be two or three threads (or approximately ¼″) shorter than the available threads within the seacock. When the cutting is done, dry-fit the seacock and through-hull assembly to ensure that the threads of the through-hull do not bottom out in the seacock before the seacock flange has seated against the backing block. If the fit is good, remove the components.

3) Apply sealant and thread the through-hull into the seacock. All bottom paint in the area must be removed—nothing adheres well to bottom paint—so sand it down to bare wood or primer and lightly abrade the area with 180-grit sandpaper. Liberally coat the through-hull threads with an appropriate, below-waterline-approved marine polysulfide or polyurethane sealant. Begin applying it two or three threads down from the un-flanged end of the through-hull to prevent sealant from being pushed inside the through-hull and seacock during assembly, where it may clog or interfere with the valve's operation. Coat the through-hull flange (outside the boat) and the seacock flange (inside the boat) with sealant. This sealant is being used as just that: a sealant, rather than an adhesive. So, high-strength adhesive-sealants such as 3M 5200 are overkill for this job. Again, with your helper and a through-hull holding tool (these are available for specific brands of through-hulls or they may be made up from flat steel or aluminum stock), assemble the two components, ensuring good sealant squeeze-out both inside and outside the hull. Do not use alcohol to clean excess sealant, as it is apt to inhibit the curing. Initial cleanup should only be carried out with a putty knife or plastic filler applicator, then followed by solvents approved by the sealant manufacturer.

4) Install lag screws. Finally, if the seacock flange has fastening holes in it, drill pilot holes for 1″ bronze lag screws using a drill bit stop (or a few wraps of masking tape to mark the bit). The lag screws, while providing some supplemental holding power, are primarily designed to prevent the seacock from spinning off the through-hull if it's accidentally struck.

Once the seacock is installed, it can be plumbed using a pipe-to-hose adapter, appropriate raw-water

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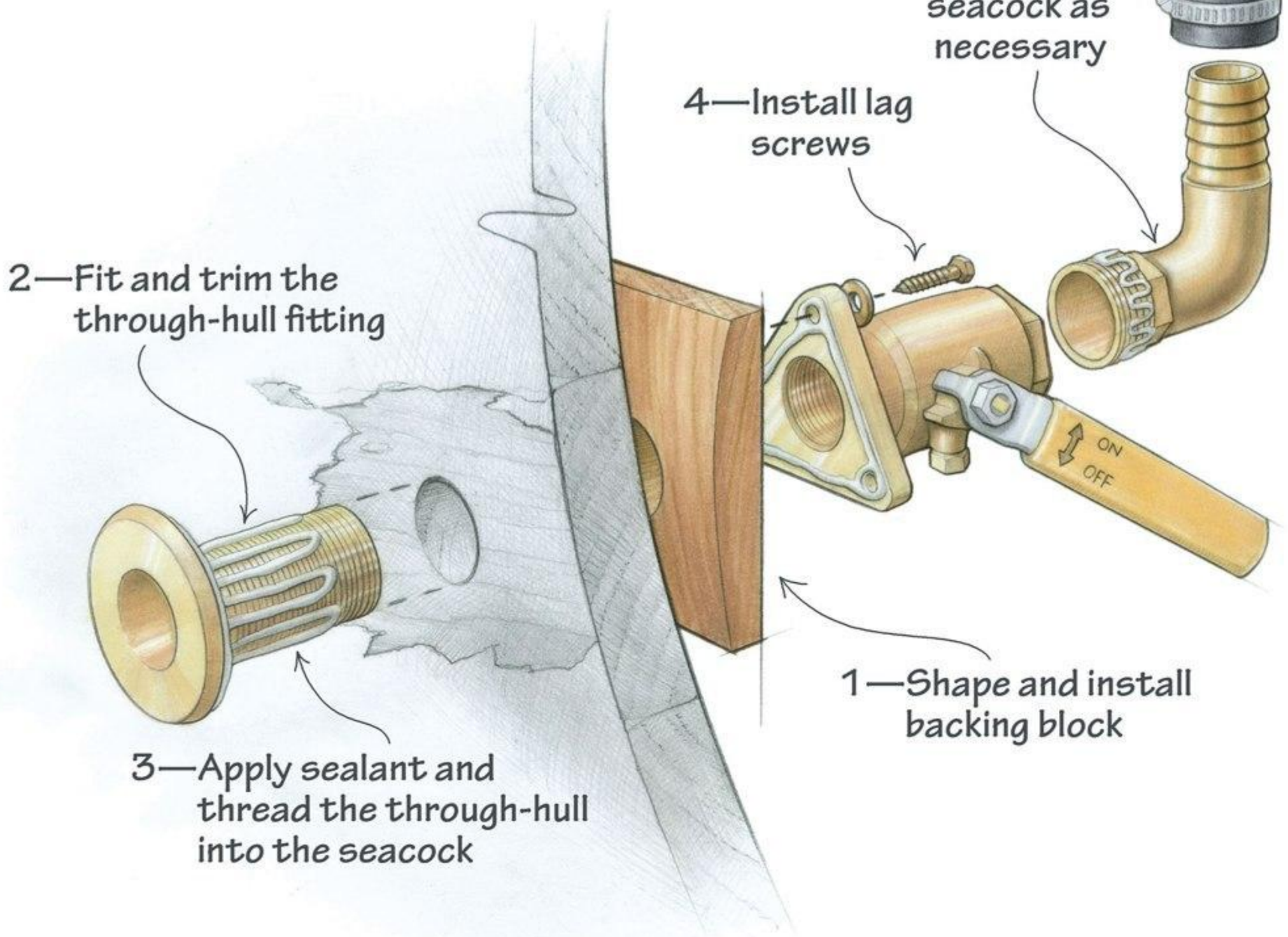
and Seacock


5—Plumb the seacock as necessary
4—Install lag screws
2—Fit and trim the through-hull fitting
ON
OFF
1—Shape and install backing block
3—Apply sealant and thread the through-hull into the seacock

BOB LAPOINTE

hose, and hose clamps. Hose should be specifically rated for raw-water use. My preference is for a variety referred to as Marine Wet Exhaust Hose that carries an SAE designation of J2006R. This hose is available in either a conventional or wire-reinforced styles, the latter being well suited for suction applications such as engine and generator intakes. Ideally, raw-water hoses should be double-clamped, provided the pipe-to-hose adapter over which they are installed will support twin clamps. If it won't, a single high-quality clamp will have to suffice. (ABYC guidelines do not specifically call for double clamps other than on exhaust and fuel-fill hoses; however, two clamps are always preferred where possible.)

Avoid installing additional rigid plumbing directly to a seacock unless it's absolutely necessary. Ideally, only a pipe-to-hose adapter—and possibly a 90-degree elbow—should be directly plumbed to a seacock. Any other plumbing, T-fittings, valves, strainers, etc. should be connected to a seacock via a length of hose. The reason for this is to minimize the leverage such plumbing can exert on the seacock. If additional rigid plumbing is connected directly to the seacock, then it must be capable of enduring the 500-lb, 30-second stress test. Passing this test becomes extremely problematic if a seacock has sprouted what I refer to as a "plumbing tree." —*SD*

This through-hull fitting has sprouted a "plumbing tree"—an assemblage of rigid plumbing whose potential leverage, if stood upon or hit, could damage the through-hull fitting and cause the boat to flood and sink.

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Installing Chines

Attaching the sides to the bottom of your hull

by Harry Bryan

A chine is the line of intersection between the sides and bottom of a flat- or V-bottomed hull. We may also speak of a multichined hull if its strakes are wide enough to produce significant angles where adjoining planks meet (Figure 1, below). A chine log is a fore-and-aft structural member fitted along these lines of intersection. The designer determines the angle and placement of chines. The boatbuilder concerns himself with joining planking at the chines and the installation of the chine logs (henceforth called, simply, "chines"), if they are called for.

A chine primarily serves to fasten the edges of the planks that land upon it, thus connecting these planks to each other. In some contemporary boatbuilding methods, the chine is eliminated, resulting in less weight and complication. In stitch-and-glue construction, for example, instead of a chine, fiberglass tape laid in an epoxy fillet connects adjoining planks.

Traditionally planked flat-bottomed skiffs and prams usually connect both sides and the bottom to a chine. A typical cross-section of a chine in this area is shown in Figure 2, above. If the design has much rocker to the bottom but only a little flare to the sides, the chines will have significant edge-set and may be difficult to install. In this case steaming can help prevent breakage and ease the strain on the building jig.

One can also laminate the chines in two or more pieces or kerf them lengthwise except for the last few inches on one end, apply thickened epoxy to the kerf, and bend them into place. Pete Culler, who designed and built many small boats using chines, preferred to spile these pieces (see WB No. 223), then saw out them out to the required curve.

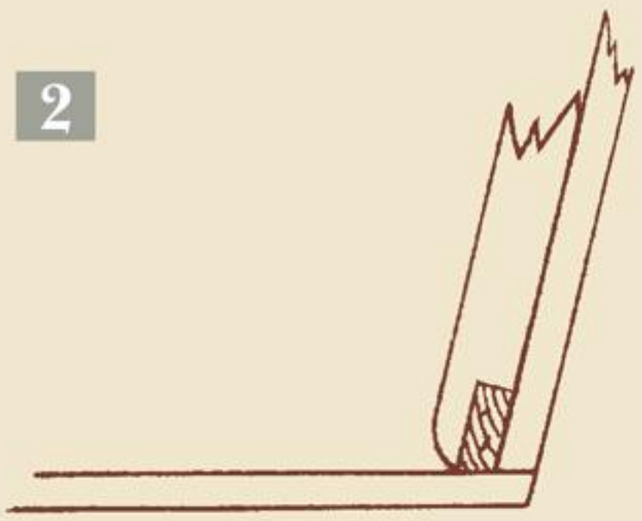
Phil Bolger, a designer known for his unconventional thinking, argued for putting the chines outside of the hull, as well (see Figure 3 above).

With the chines on the outside: (1) Bulkheads won't need to be notched around them, making it easier to fit these structures. (2) Outside chines can be run past the stem and transom and trimmed to length after fastening, rather than fussing with an exact fit within the hull. (3) If the chines do run past the stem and transom framing, they will likely be easier to connect to the ends of the boat. (4) While in theory outside chines would slow a boat down because of their increased surface area, a sailboat with outside chines should get a better bite on the water and reduce leeway when working to windward.

I am sure that Mr. Bolger would not have recommended an outside chine for all flat-bottomed designs. I would be worried that their use on a planing skiff, for example, might increase the tendency for the bow to catch a wave and sheer off to one side, a dangerous occurrence at high speed.

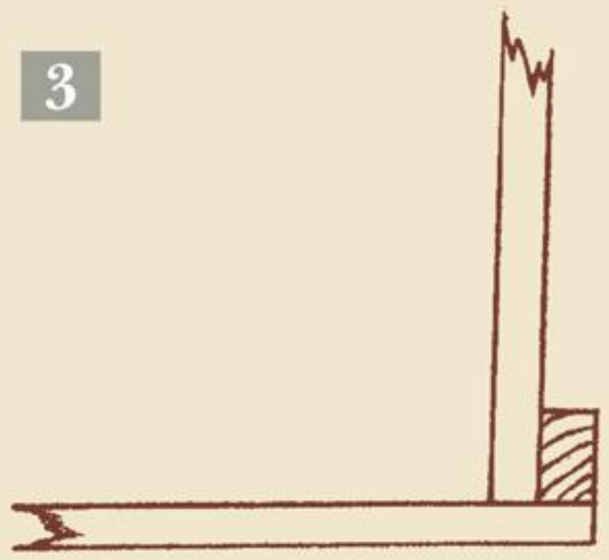
Chines that are too high in cross section can lead to problems. Because they are often made of oak, which swells more than the cedar or pine planking, the chines can swell proud of the garboard's edge, thereby pushing the bottom planking away from the garboard. Making the chines no wider than necessary to take the fastenings (Figures 4 and 5) should solve this problem. In like manner, wide transom cleats may push the side planking away from the transom, causing leaks after swelling. They, too, should be no wider than necessary. Bed and fasten the chines well to prevent rainwater

2



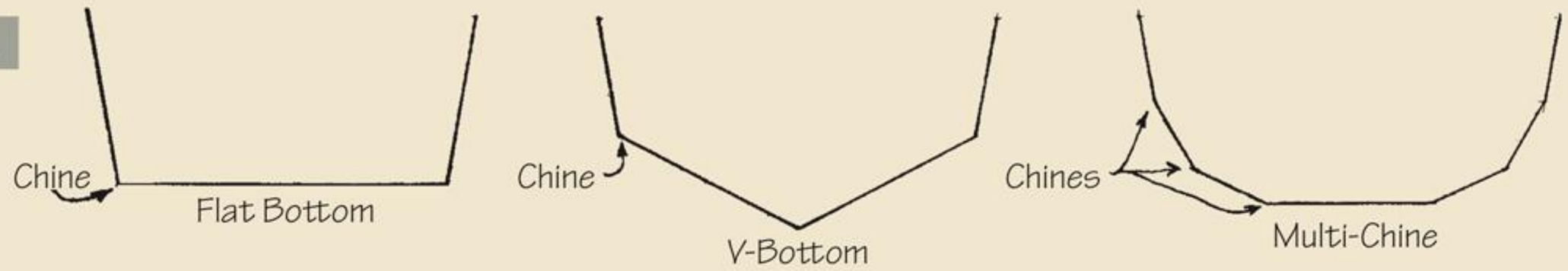
A typical chine in a flat-bottomed boat. Note that the frame end need not be beveled to fit the boat's bottom but can be rounded as shown, and that the top edge of the chine is usually left square, i.e. unbeveled.

3

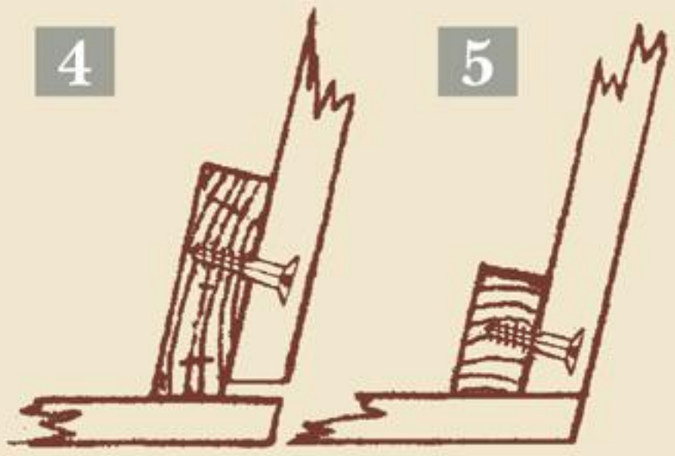


An outside chine, although not common, is sometimes easier to install as well as creating a simpler interior for fitting watertight bulkheads.

1



Chines are formed at the intersection of the bottom and sides of flat- and V-bottomed hulls. A multichined hull forms chines where its wide strakes meet.

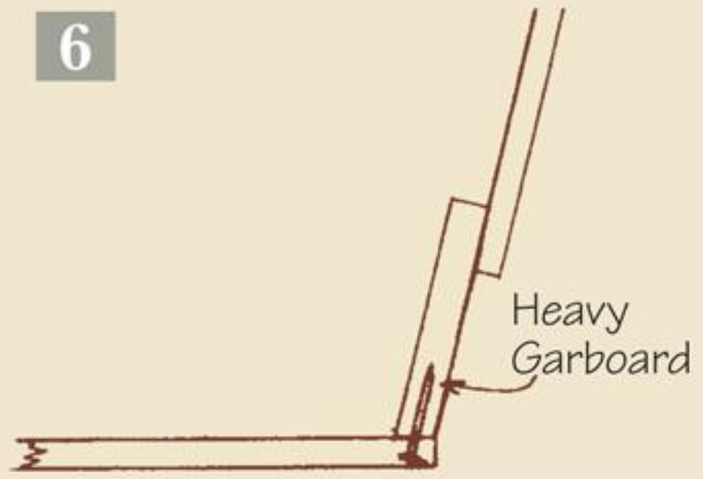


Drawing 4 shows how a too-wide oak chine can push the bottom planking away from the cedar garboard when it swells up, since oak expands more than cedar. Drawing 5 shows a better-proportioned chine, it's no larger than needed to take the fastenings from the garboard and bottom. This smaller cross section will also be easier to install if there is much bend or edge-set.

from getting between them and the planking.

One good way to eliminate chine problems is to eliminate the chine. Many of the well-regarded and long-lasting skiffs developed at Westport, Massachusetts, had their cross-planked bottoms nailed directly into the garboard's edge with no chine. The garboard was increased in thickness to create a more substantial landing for the bottom planking. For instance, a 12′ skiff built by F.L. Tripp at Westport Point used a ¾″ garboard and a 9/16″ sheerstrake (Figure 6).

When fastening a cross-planked bottom at the chines, use three fastenings where each plank crosses the chine. This will eliminate any cupping and consequent leaking as the plank swells. I learned this the hard way.



If the garboard is thick and dense enough to hold the fastenings driven into it from the bottom, there is no harm in eliminating the chine and its complications altogether.

V-Bottom Chines

The chines of a V-bottomed hull usually require significantly more beveling than those of a flat-bottomed model. While the bottom and sides of a V-bottom may meet at nearly 90 degrees near the transom, they are almost in line with each other at the stem. Despite this, the beveling is usually straightforward. The chines are let into notches in the molds or sawn frames. The correct bevel is established at these known points and, with the aid of a batten, the changing bevel can be made to flow from one point to the next (see sidebar).

Some thought must be given to how the planking of the bottom and topsides will meet at the chine. I find it helpful to draw full-sized sections of the chine and planking at a

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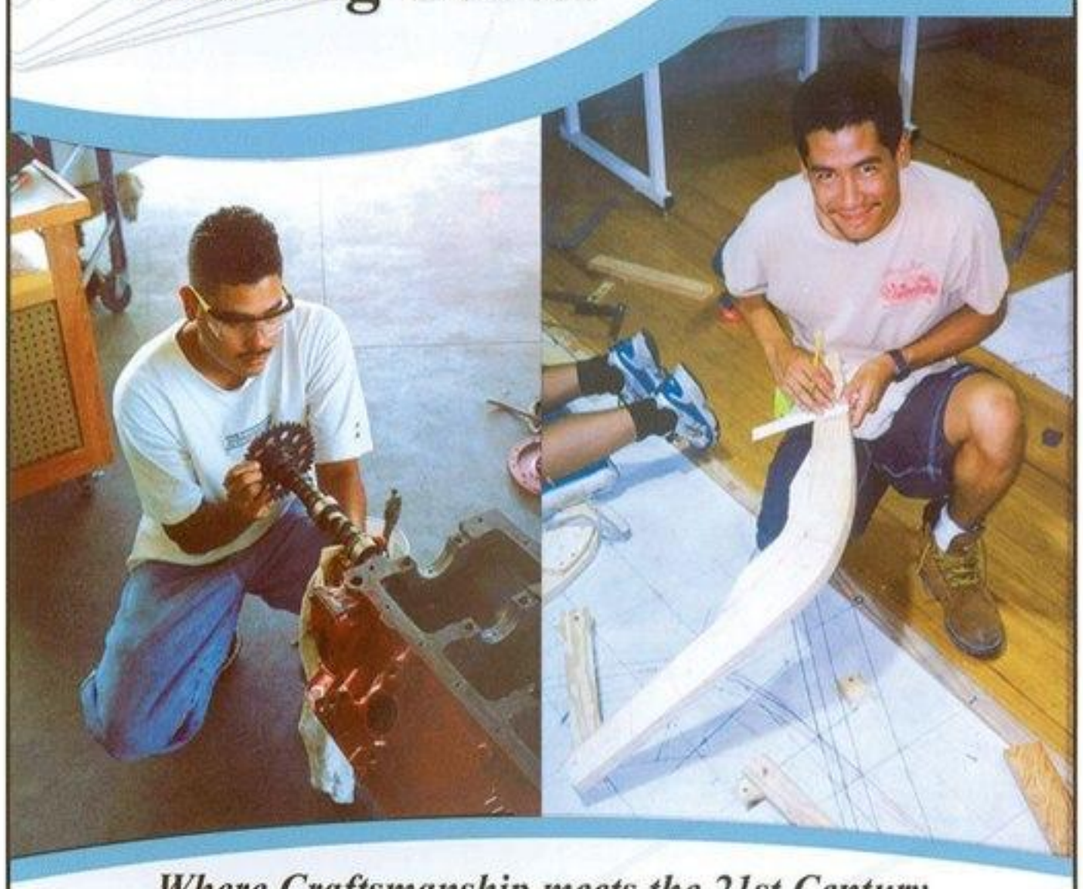

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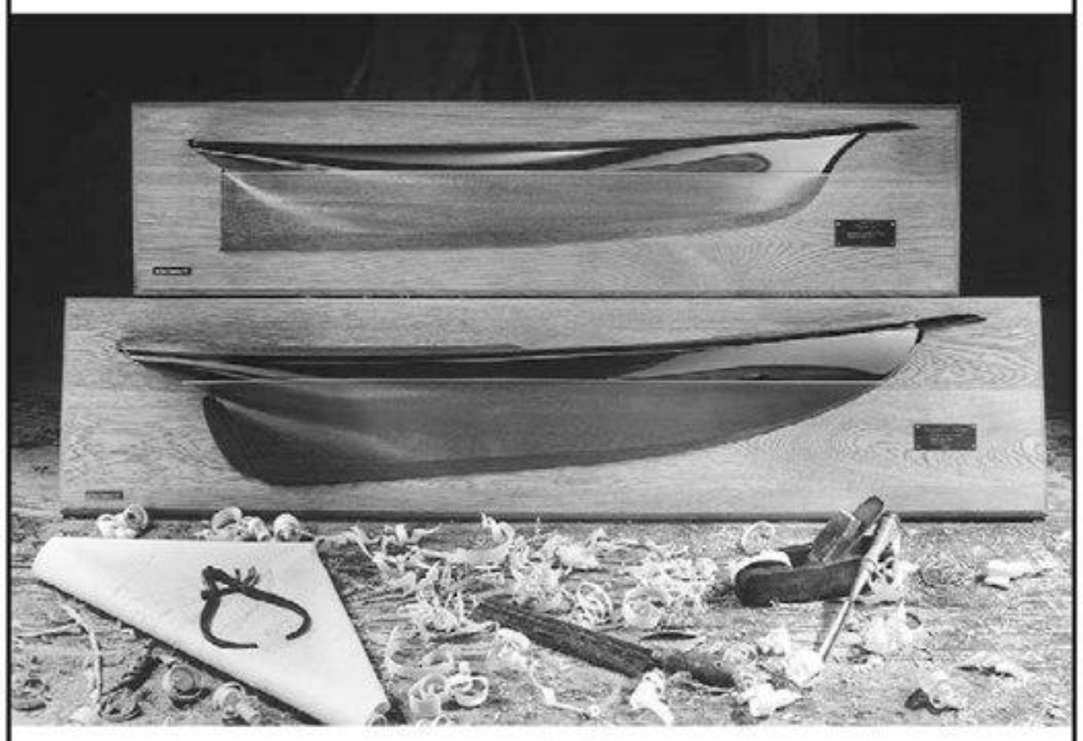

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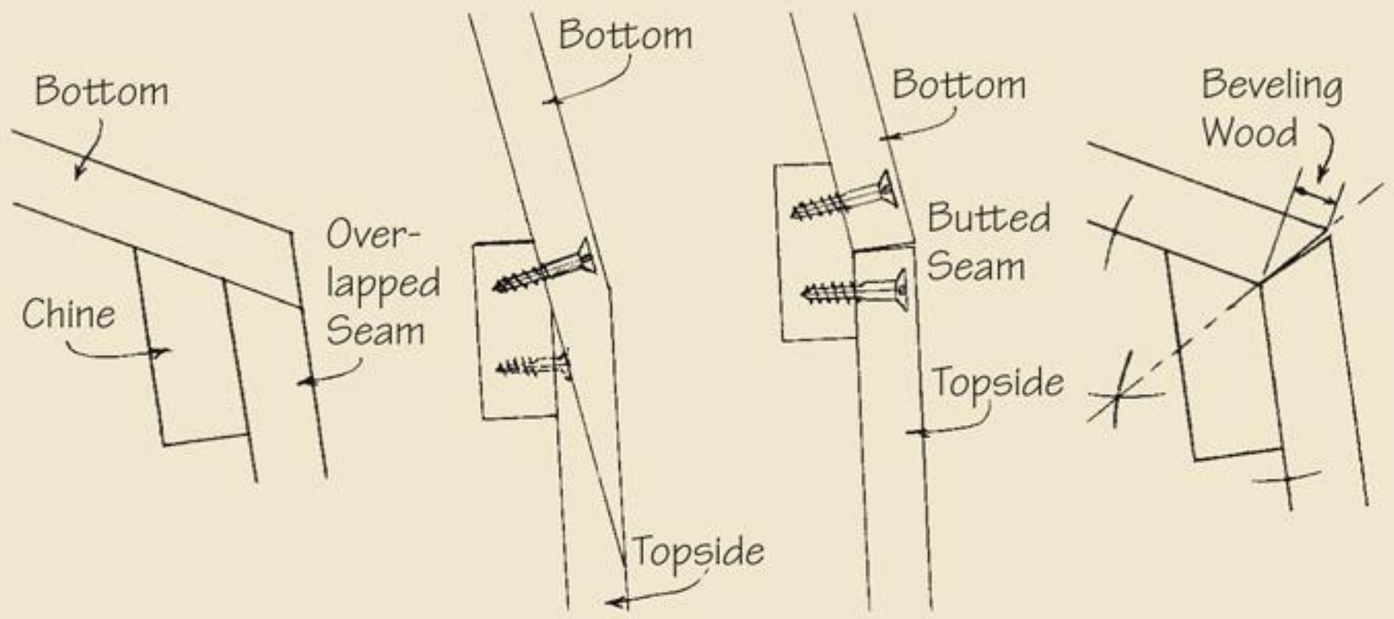
minimum of four places along the length of the hull.

The illustrations at right show, from left to right, how the bottom planking typically overlaps the side planking on a V-bottom boat from the stern until the beam starts to narrow toward the stem. The second drawing shows why an overlap cannot be used forward, instead a butted seam is required as shown in the third drawing. The transition from lap to butt is abrupt, and once the concept is grasped, beveling for this transition is not difficult to execute. These problems can arise whether the planking is plywood or solid wood, or whether the boat is cross-planked Chesapeake style, or fore-and-aft planked on its bottom.

Lately in our shop we have been using a butt seam for the whole length of the chine. This seam is planed slightly open to receive caulking. The chine angle can be bisected on the full-sized drawings and the amount of beveling wood calculated. This extra wood must be carefully included in the spiled shape of the plank. The rightmost drawing above should help make this clear. With a fully butted seam it does not matter whether the bottom or topside plank is put on first, but if you elect to lap the bottom over the sides, the lowest topside plank must be hung before the bottom can be finished. *(Sidebar follows)*



***Far left*—Often, the bottom planking overlaps the side planking for about three-quarters of the length of the chine starting at the transom. *Left*—An overlapped seam cannot be used in the forward sections of most V-bottomed hulls (see placement of bottom screw). *Right*—For the final forward quarter of the chine's length, the planks are butted. The fastenings work better with a butted and beveled seam in this area. *Far right*—A beveled caulking seam usually has to be employed forward, but may be used for the full length of the chine if desired. Note that beveling wood must be allowed for when sawing out the planks.**

Harry Bryan is a contributing editor to WoodenBoat.

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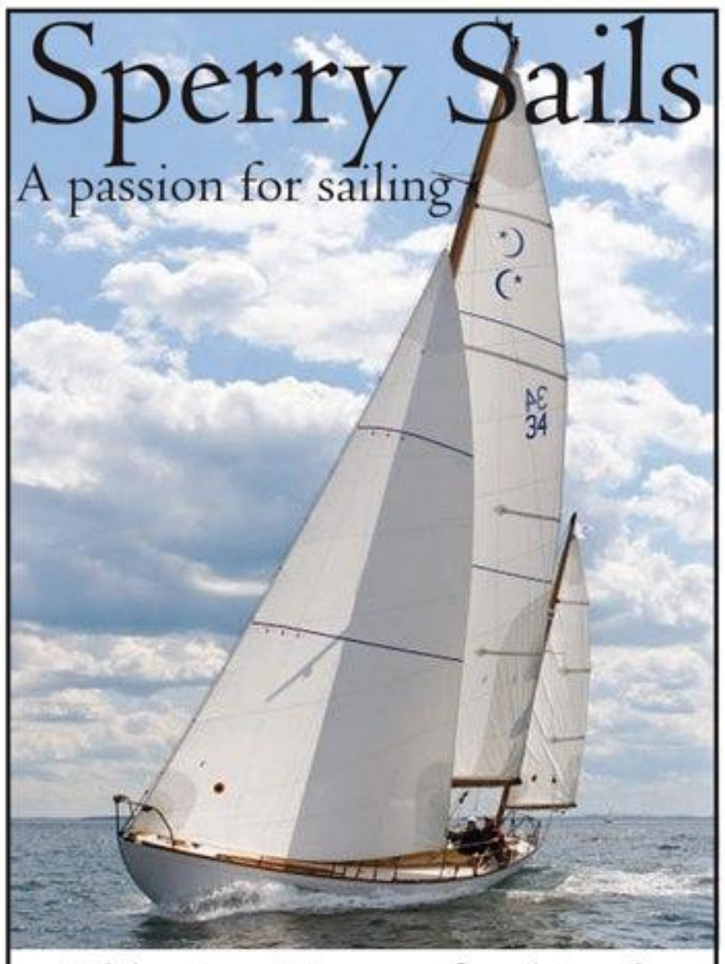

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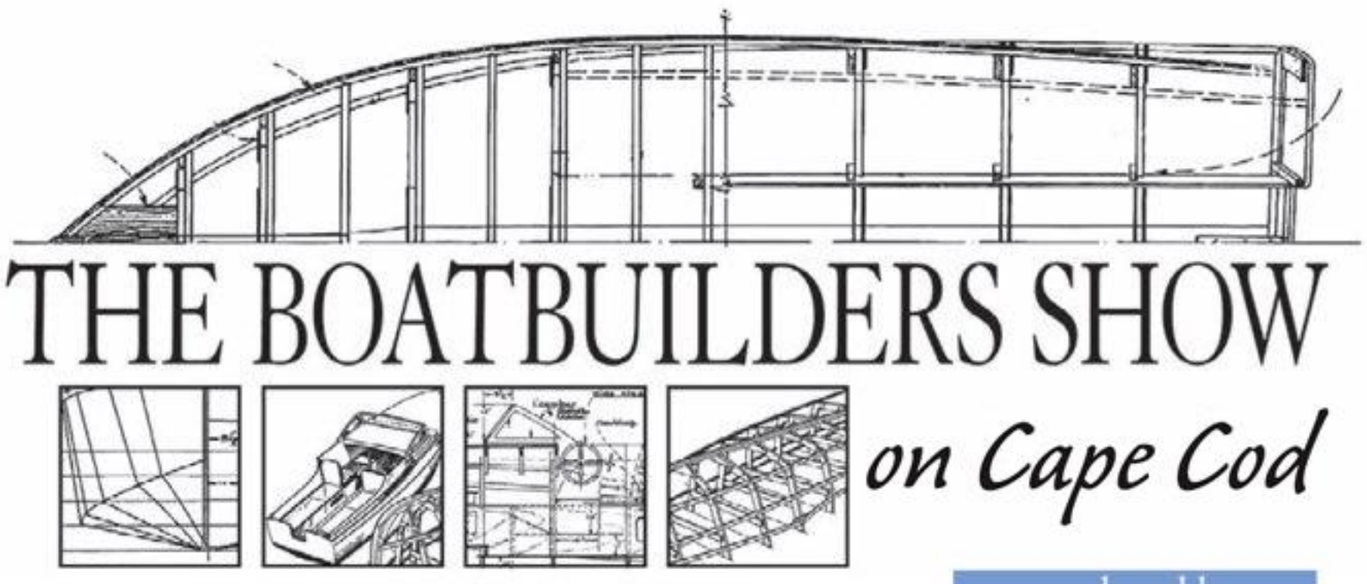

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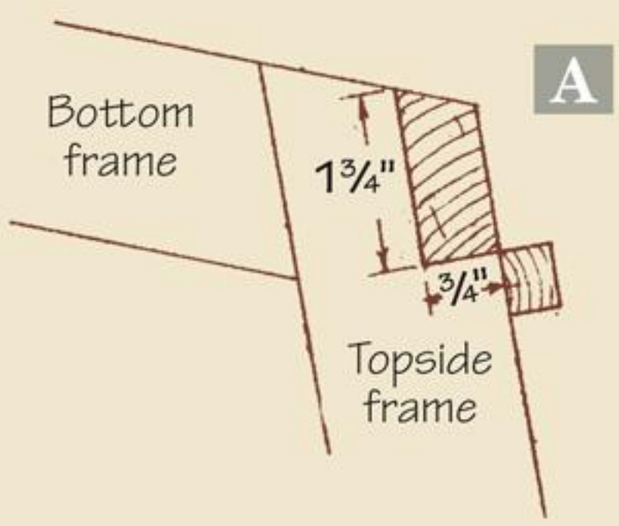
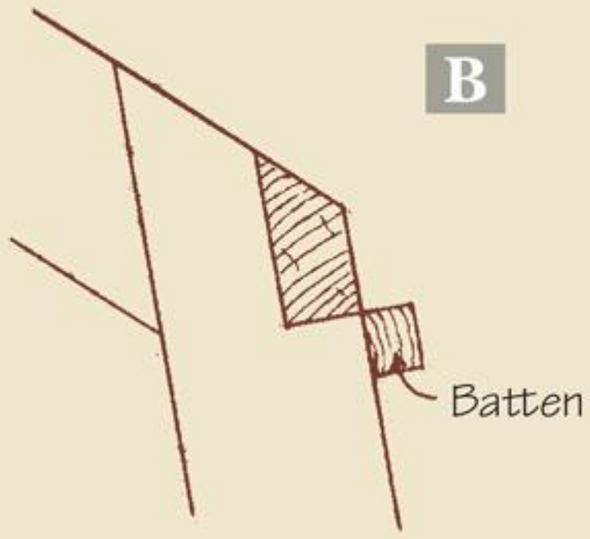
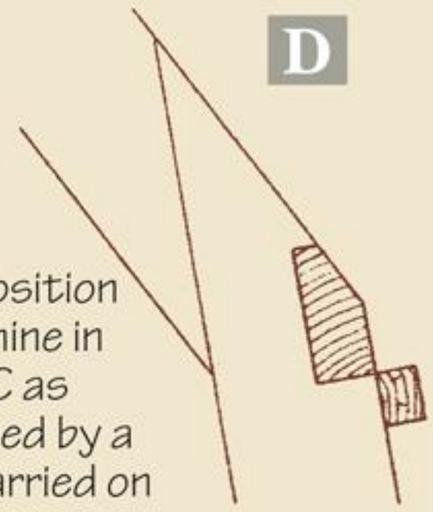
Laying Out Notches for the Chine in a V-Bottomed Hull





Chine position as determined by pattern does not give enough area to fasten topside planking near bow of boat.



Better position for the chine in Drawing C as determined by a batten carried on to the stem.

Note in Figure A how a ¾" × 1¾" chine fits into the angle between the bottom and the side of the aftermost frame. Make a pattern of the chine's cross section using thin cardboard or a scrap of the actual chine material (if there's extra). Trace this pattern in the bottom-side angle of each frame moving forward from the stern. As you approach the bow, you will find that the chine joint falls too high to give enough area on the vertical face of the chine to fasten the topside planking (Figure C). To fix this, tack a batten along the topside corner of the notches you drew on the after frames (Figures A and B), then let it flow in a fair curve to the stem. This batten represents one

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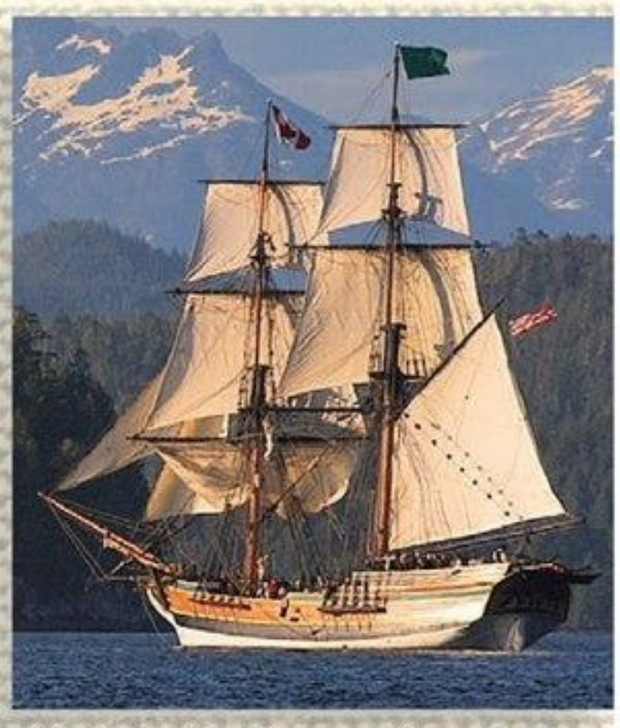

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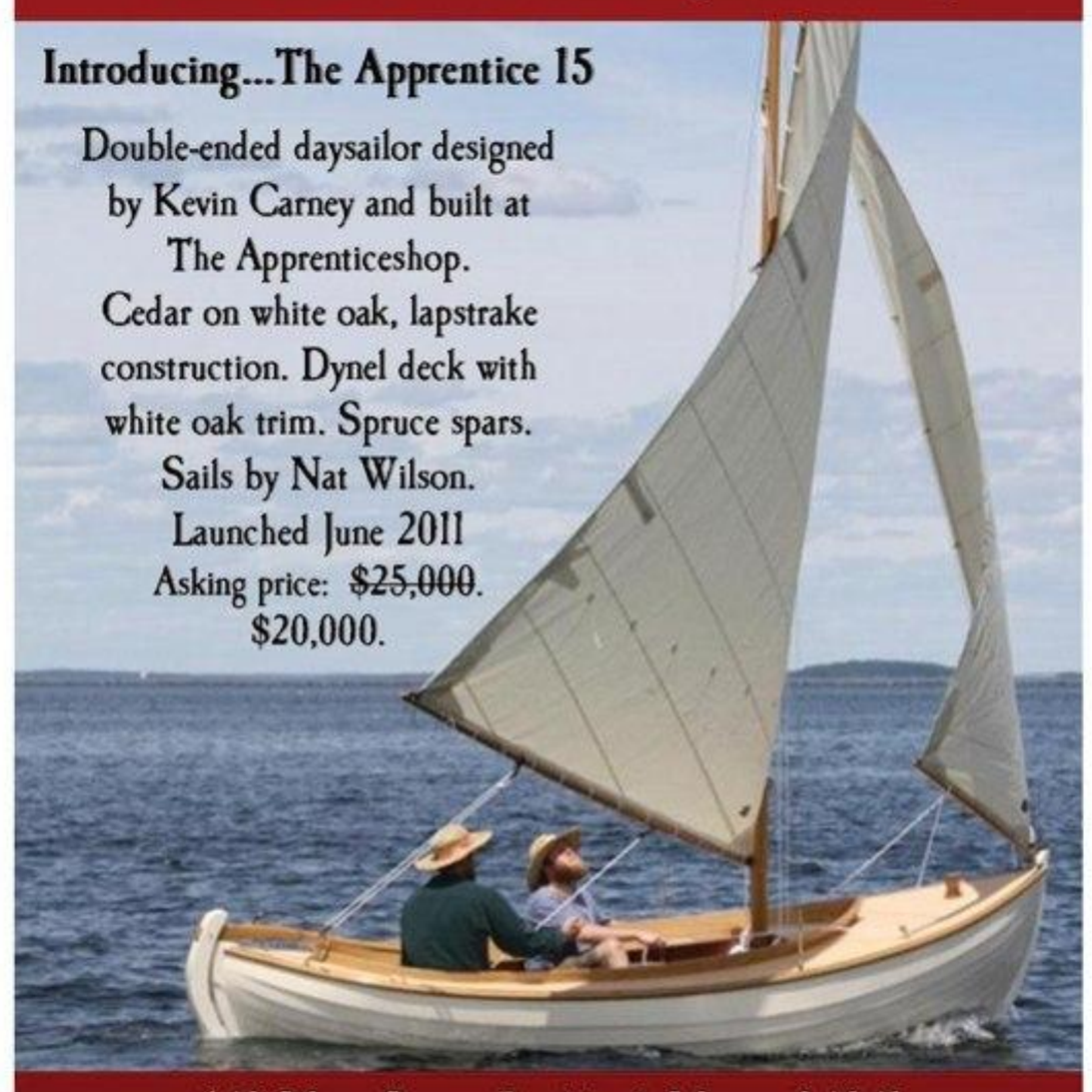

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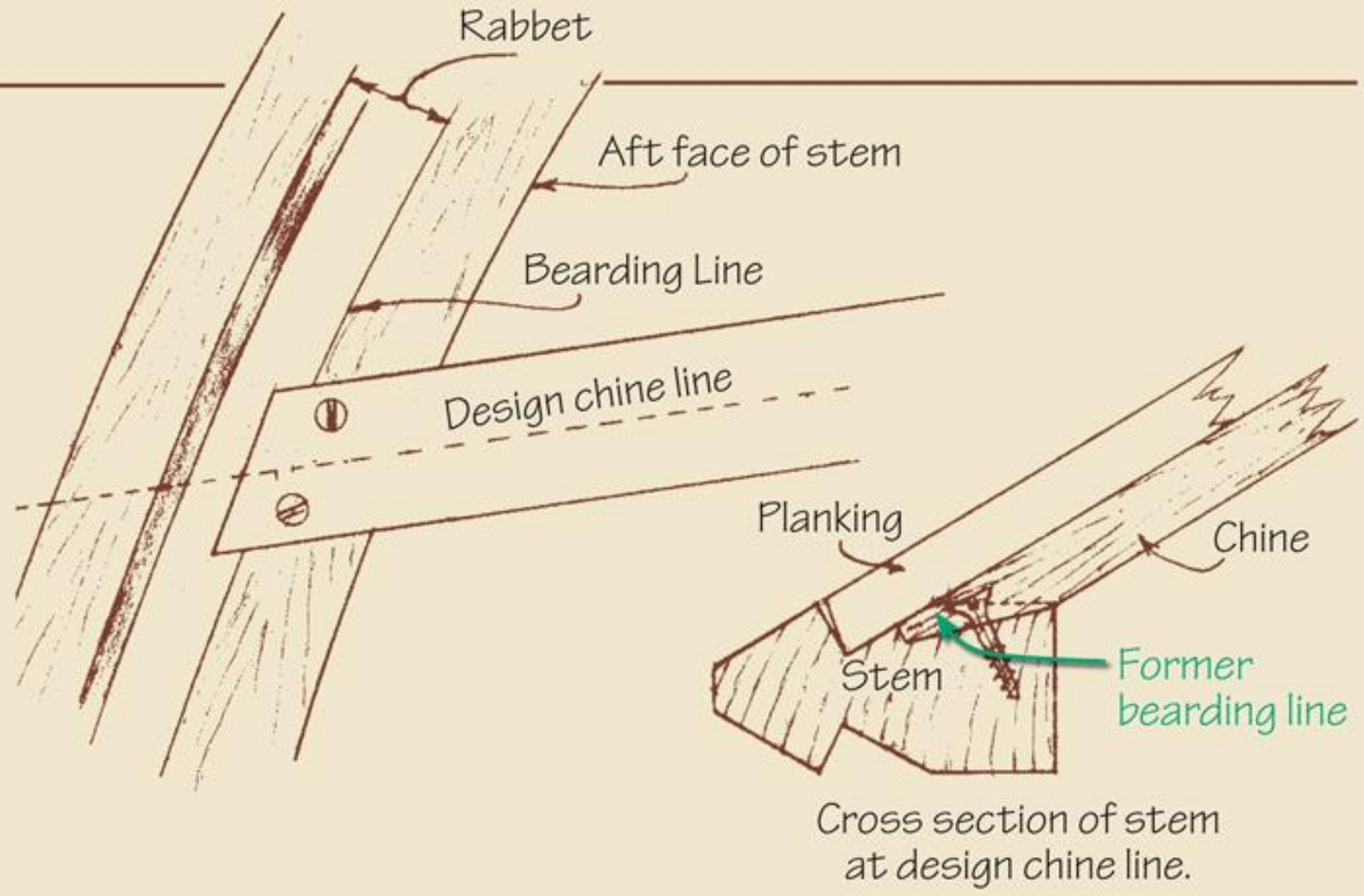
edge of the chine log. Fit it at the stem to allow the chine to center over the designed chine line. Draw along the batten at each frame and set your notch pattern on this line as shown in Figure D.

There should be a solid connection between the chine and the stem. There is not usually enough wood between the bearding line, which marks the aftermost edge of the rabbet cut into the stem, and the aft corner of the stem to bevel off the chine and fasten it with screws. It will be better if you let the chine run forward of the bearding line a little and cut a mortise into the stem to receive it. But if this mortise is cut deep enough to accept the full thickness of the chine; it could seriously weaken the stem. What to do? The illustration above shows that by partially beveling the chine's end, the depth of mortise can be reduced while still leaving enough wood for the fastenings. —*HB*

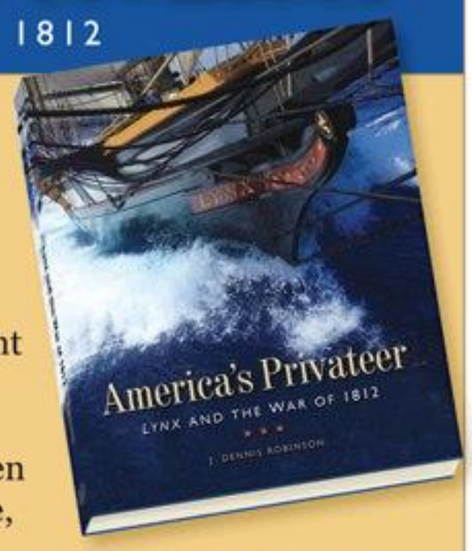


Cross section of stem at design chine line.

A partially beveled chine end, mortised into the stem, makes a strong connection in this area.

America's Privateer

LYNX AND THE WAR OF 1812



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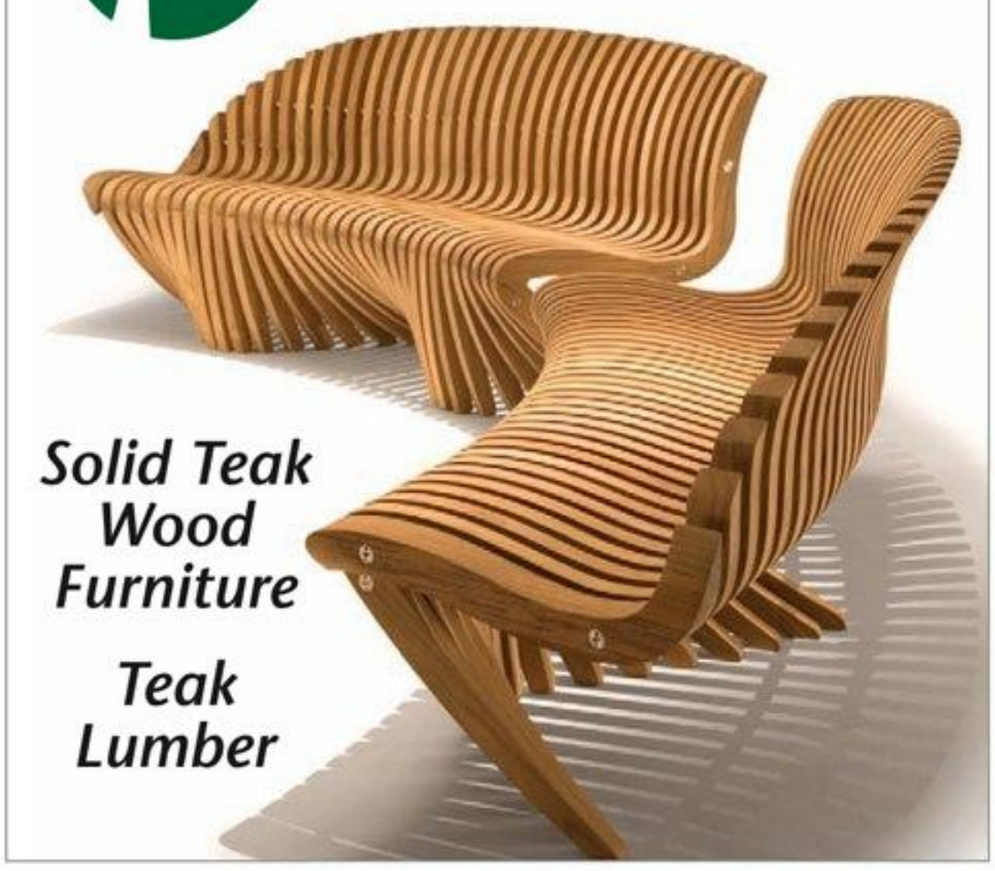

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PRAGMATIC BEAUTY

by Donnie Mullen

The Vietnam War changed the course of Reuel Parker's life. In 1967 he was a junior at Columbia University in New York, studying mechanical engineering and music. His college enrollment should have protected him from the draft, but a bout of bronchitis had left him one credit below the draft-deferment minimum. At the age of 21 he found himself plucked from school and deposited into the Army.

A nonviolent Unitarian, Parker refused to kill people, and during basic training he formally enlisted to avoid being assigned to the artillery. "The military was a nightmare and it radicalized me," Parker recently said. "It derailed a formal career in engineering or physics."

Unfortunately, he received orders that would lead to the frontlines. Pushed to his moral limit, he deserted. "I was dropped straight out of being a good college kid right on down to being terrified on a daily basis," he remembered.

After eight months, Parker turned himself in as a conscientious objector. He was discharged "for the good of the service," and was immediately faced with the need to earn a living. He worked as a carpenter and musician.

In 1971, he moved to San Francisco, where, within three years, he owned his own contracting business (cowboy style: no license, no phone) specializing in high-end residential and commercial construction. He also began to experiment with architecture. Socially, he explored alternative communities and spent a few years living in a commune in the redwood forest. When

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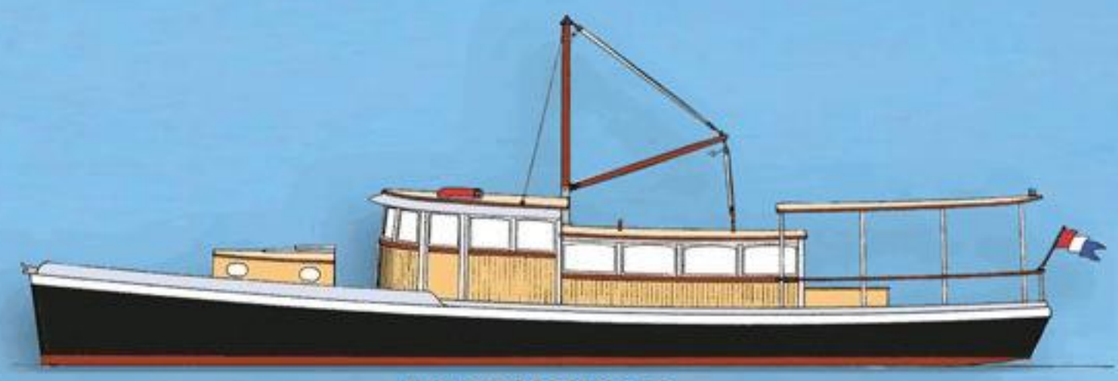

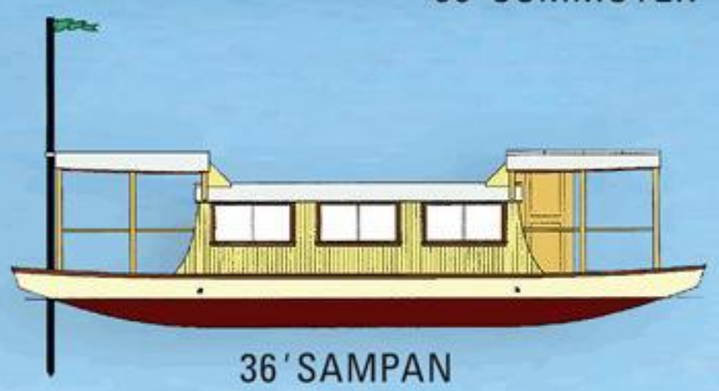

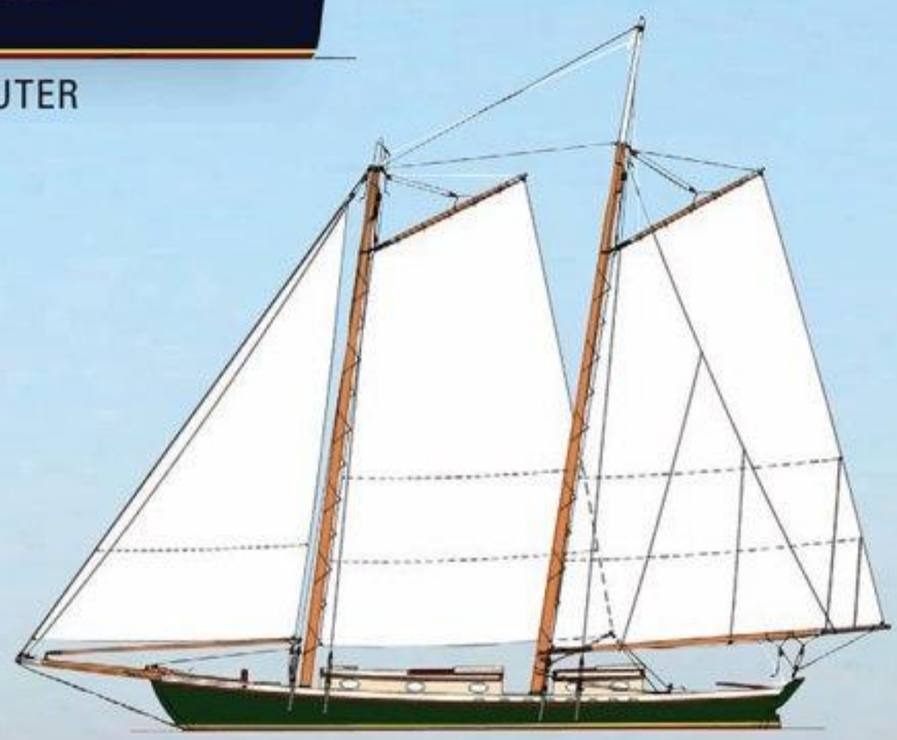

The designs of Reuel Parker

***Opposite*—Reuel Parker (inset) designs and builds well-performing wood-composite interpretations of historical watercraft. The 50′ Lorcha T′IEN HOU is based on a modified junk-rigged boat developed by the Portuguese in the 16th century. *Above*—A sampling of Parker's design work. You can view the complete catalog at www.parker-marine.com.**

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that community dissolved, Parker, still bitter over his Army experience, started to think about a fresh start. In 1974, he decided to revisit a fascination from his youth, and a new goal emerged: He would build a big cruising sailboat and get lost.

In today's boating world, Reuel Parker has carved a lasting place for himself. Mention him to the big-name builders of the U.S. East Coast, to the serious cruisers of the Bahamas, or to the do-it-yourself crowd just about anywhere, and they know who he is. Yet he keeps his distance, preferring to live and work on his own. He is a talented designer and builder, an accomplished cruiser, and an author of books and magazine articles. He is a tireless worker. When engaged in a building project, he is known for his efficiency and ability to accomplish a mountainous workload. If the project is larger, he employs a crew, but when building smaller boats he often works alone. He is always designing in his head and continues to use pencil, paper,

Parker designed and built the 75′ LOA Virginia Pilot Schooner LEOPARD in the early 1990s, and lived and traveled aboard her for five years, until 1998.

and a drafting table to bring his new ideas to life. His writing reflects his love of cold-molded construction, design history, and cruising. He is largely self-taught.

"Today everything is about documentation," he said. "I have no paperwork. I have a very good, varied background," and, he added, his life has been populated by good teachers.

Trying to distill Parker's 130-plus boat designs to a cherished few or a "type" is far from fair. Tom Lokocz, a mechanical engineer, longtime friend, and neighbor of Parker, said, "Reuel's known for relatively simple-to-build shallow-draft cold-molded boats." Joel White helped to describe Parker's niche further when he wrote, "Parker's boats are often based on older designs modified to take advantage of modern materials and modern thinking."

"He's an eccentric," said Bill Smith, Parker's boatbuilding partner of nearly 30 years. "He certainly has the ability and the eye to do more modern yacht design and probably could have profited more by falling in line, but he's stuck to his guns."

Dan MacNaughton, co-editor of *The Encyclopedia of Yacht Designers*, wrote in an email that he thinks Parker's work comes close to the optimum in design: "He has kept things simple and rugged, with traditional appeal and design references, without building in any of the disadvantages of their [his boats'] working ancestors."

As one fan put it: "A lot of designers sell boats, but Reuel's boats stop your eye." Among his many cherished creations, there are a couple that have captured popular attention. Primary among them is the breathtaking LEOPARD, a 75′ hot rod based on a Virginia pilot schooner but with a round-bilged, moderate-draft hull and centerboard. Parker designed LEOPARD to carry a lot of sail and gave her relatively flat sections aft, which allow her to exceed hull speed.

"When people think of Reuel Parker they think of LEOPARD," said Tom Lokocz. Indeed, it's amazing how many sailors have a prophetic LEOPARD sighting to share. One such story was recounted by the former publisher at International Marine, Jon Eaton, who worked with Parker on his first two books. "I remember seeing LEOPARD pass the mouth of the anchorage, heading for Seal Harbor. With her raked masts and bowsprit, she looked stately, even majestic."

Another standout in Parker's design repertoire is the elegant Commuter 36, a motorboat designed after the American commuter yachts of the 1930s but with a sharpie-inspired hull. In 2009, the Commuter 36 was one of several boats used to determine the parameters of a contest to design an efficient and economical small powerboat, sponsored by this magazine and its sister publication, *Professional BoatBuilder.*

There are hundreds of boats out there that began on Parker's drafting table. Beyond what he's designed and built himself (nearly 50), he's in the enviable position

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of being a cult hero in the home-builder arena. "His whole thing," said Smith, "has been to make them simple enough so that the professional and home builder could go to Home Depot and buy everything [they need] to build a boat."

His first two books, *The New Cold-Molded Boatbuilding* and *The Sharpie Book*, have been used by countless people to bring dreams to fruition. One such devotee recently wrote on the *WoodenBoat* online forum: "I could look at Parker's work all day long—in fact, I have."

Yes, Parker is a respected designer-builder, but a homebody he is not. He has logged tens of thousands of cruising miles that range from California to the Panama Canal on the Pacific Ocean and from Nova Scotia to Grenada on the Atlantic. At first glance, cruising seems a happy offset to Parker's workaholic nature. Yet, his brand of cruising is not for the faint of heart. "I still sail a gaff-rigged schooner," he said, referring to his 45′ IBIS, which he finished in 2009. "There's not a winch on that boat. There's not even a windlass. I like the physical exercise of sailing."

Parker has sailed IBIS to the Bahamas each winter since her launching. Over his career, he has celebrated the completion of every large non-commission cruising boat (five including IBIS) in similar fashion. When asked why he cruises, Parker reflected, "The Bahamas, man, the color of the water alone makes it worthwhile to go."

Nowadays, he carries a laptop when cruising and builds a drafting table into every personal boat. He does allow himself more reading time (three to four hours a day—about an hour more than in his land-based routine) as well as time to cook, play music, and fish. Over his decades of cruising Parker has shared quarters with more than 300 crew.

To understand "Reuel Parker the designer," one must first recognize him as a cruising sailor. "My focus has been cruising boats," Parker said of his design work, adding that centerboard schooners are his passion. "I'm a cruising sailor. That's what I know."

Reuel Bartlett Parker was born in Denver, Colorado. In 1948, when he was two years old, his family moved to Bangor, Maine, where his father served as the minister at a Unitarian church. At four years old, Parker found himself standing on a dock in Maine, peering down at the deck of a coastal schooner.

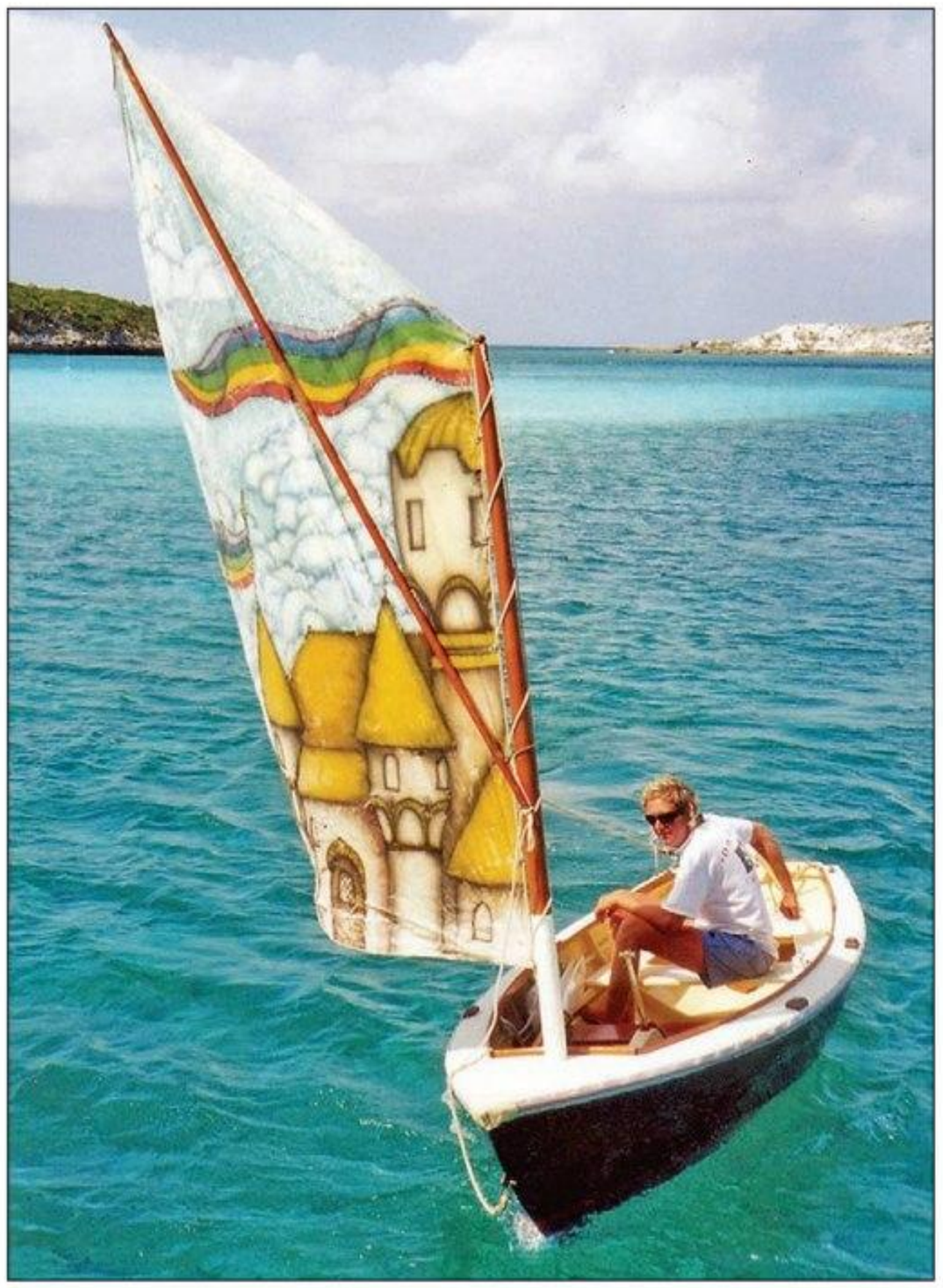
"Something clicked," he remembered. "I just thought it was the most beautiful thing I'd ever seen."

That same year, Parker's father died unexpectedly, and his mother, a high school English teacher, moved Reuel and his younger brother to the south shore of Long Island, New York, where Reuel's fascination with boats blossomed.

"I became a water rat right from the start," he said.

As a child, Parker was mechanically inclined and headstrong. His innate understanding of machines led him to take apart—and reassemble—watches, small motors, and appliances. Early on, he began designing and building models of boats and airplanes. At eight, he built a boat with a handsaw, roofing nails, tar, and a piece of plywood. It sank. Parker befriended the

IBIS, Parker's prototype Sharpie 45, was launched in February 2010. The boat, measuring 45′ overall and displacing 15,000 lbs, draws just 2′6″ with the centerboard raised.



GANDY DANCER, based on Chamberlain skiffs of the early 20th century, was the prototype of Parker's Dory Skiff 12 design. This shorter, beamier version of the original Chamberlain boat "worked out to be the best tender I ever owned," said Parker. She conveyed with LEOPARD when Parker sold the big schooner, and was later destroyed when run over by a fishing boat.

father-like janitor at his apartment complex who owned a runabout, and the two would go off for summertime forays into Great South Bay. The school street-crossing guard was another mentor. He taught Parker simple boatbuilding and engine repair. At 13, Parker built an 8′ hydroplane by wrapping plywood around mahogany frames. He powered it with a doctored 16-hp outboard. Not only did it not sink, it went very fast. The design came straight from Parker's head, based on a modicum of observation.

By the time Parker was in high school, his mother was remarried to an Italian chemical engineer who steered his stepson toward science. As though on cue, Parker tested exceedingly well in spatial relations at school, and a career in engineering seemed all the more likely.

Music was another passion. When he wasn't visiting boatyards, Parker was broadcasting a classical radio station across his apartment complex. As a teenager, he was already teaching music and playing in a band.

Parker attended two state colleges, where he majored in physics, before he attained entrance into Columbia. While at college, his interests included fine arts, literature, and philosophy. "I wanted to study everything," he recalled.

Though he loved music, a career based in the sciences had the blessing of his parents. He began to imagine himself either an aeronautical or automotive engineer. And then came Vietnam, desertion, and an unconventional life in California. Finally there was the realization of a dream that would steer him back toward an earlier penchant.

When not involved with his contracting business in San Francisco, Parker spent every available minute building FISHERS HORNPIPE. He read nearly a hundred books: on marine architecture, sailing, cruising, and boatbuilding. In practice, he learned from trial and error.

Some days he had a crew of 20 helping him, at other times he proceeded alone. FISHERS HORNPIPE was a 54′ LOA ferrocement cutter designed by James Patrick Cotton, a naval architect and co-worker of Parker's. FISHERS' interior design and sail plan were all Reuel Parker. A couple of years into the building, Parker moved FISHERS from Half Moon Bay on California's Pacific coast to the houseboat community of Sausalito on San Francisco Bay. There, he lived aboard while continuing the construction.

In 1979, Parker at last set sail. It had been five years since he began work on FISHERS HORNPIPE, but now he could live the second part of his dream: to get lost. Over the following five years, FISHERS HORNPIPE crossed three oceans, visited 20 countries, and covered 35,000 miles. Parker filled his passport. The voyage taught him about open-ocean sailing, bonded him to dozens of crew (several girlfriends), and sealed his fate as a shipwright and designer. He carried a drill press, Alaskan sawmill, shovels, rakes, seeds, and a shotgun. He ground his own flour and grew sprouts. He went to Communist countries and dictatorships. He witnessed terrible poverty in places like Colón, Panama, where people would commit murder for just $10. He learned to speak French and Spanish, albeit badly. He worked when he had to, living on $3,000 to $4,000 a year. One paying project was the restoration of IMAGINE, a John Alden Malabar Jr., which became the subject of his first *WoodenBoat* article, "A Story of Priorities" (WB No. 65).

Then, in 1984, tired and in need of a change, Parker returned to land and set up shop as a marine architect in Islamorada, Florida. His first commission, SARAH, would become the blueprint for his now-famous Exuma 52. He designed SARAH free of charge on condition that she be built, and to ensure her completion, signed on as the builder. She was cold-molded utilizing a new technique that Parker had developed whereby marine plywood planks were laminated over a tongue-and-groove base layer. Today, SARAH is a charter boat in Key West.

A year later, Parker started building his first Exuma 44, utilizing the proceeds from the sale of FISHERS HORNPIPE. TERESA DE ISLA MORADA was built outdoors in a little dirt boatyard where Parker lived in a tent. By the time she was finished he was broke; broke

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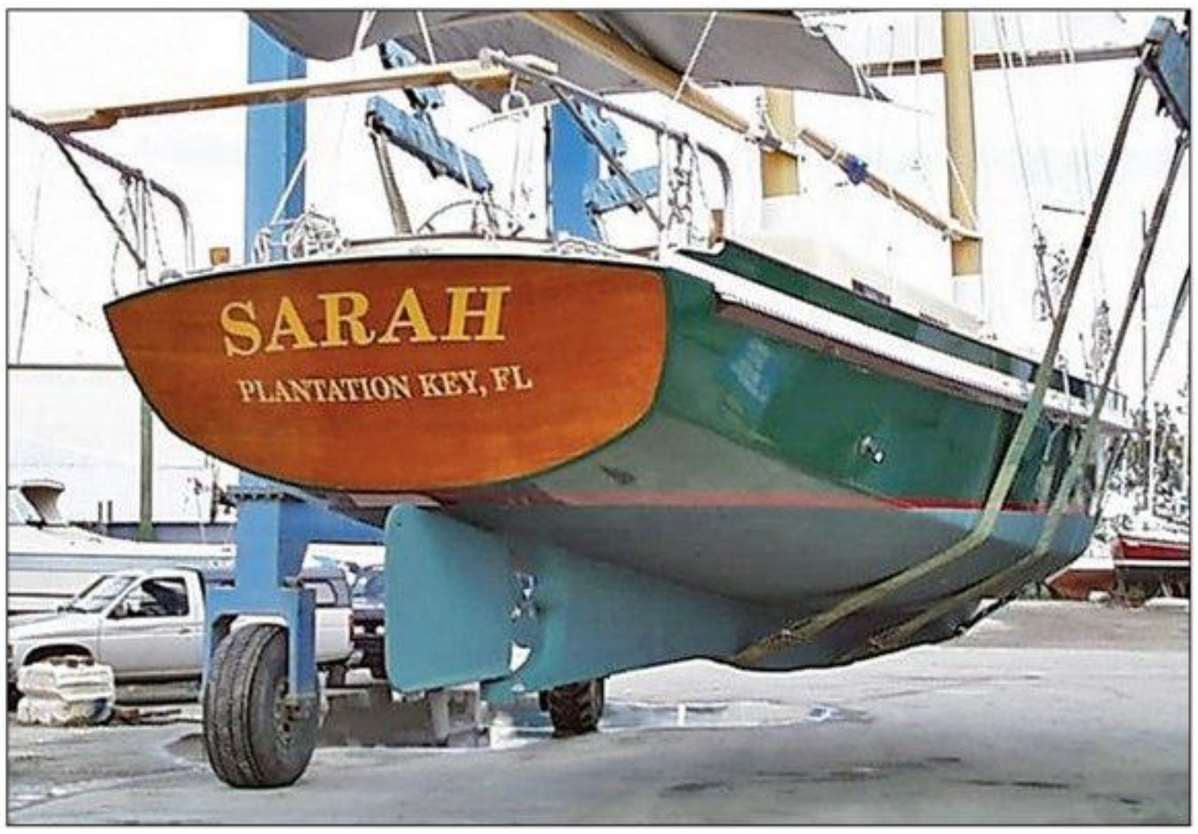


The shallow-draft schooner SARAH was Reuel Parker's first design commission. Built in 1984, she was cold-molded in strips of plywood laid over a base layer of tongue-and-groove strips. Today, she sails from Key West.

but not out. He started writing more frequently for *WoodenBoat* and *BoatBuilder* magazines, and the exposure led to custom wooden boat design work and building projects. Add in restoration jobs, the writing of books, and the sale of plans and design catalogs, and you have a sense of Parker's career as it has progressed over the past three decades. Most of his new-builds are constructed using cold-molded wood technology. But not exclusively—he has also done traditional plank-on-frame and lapstrake in addition to working with fiberglass, steel, and aluminum.

"Really how I earn money is when I pick up a Skilsaw," Parker explained, noting that new boat construction is a primary source of income.

"Reuel describes himself as a ruthless boatbuilder," said Lokocz. "He doesn't hold back. He dives in and gets the job done."

In 1988, Parker spent his first summer in Maine since childhood. He had just signed the contract to write *The New Cold-Molded Boatbuilding* and wanted to be close to his publisher, International Marine (IM), then located in Rockport, Maine. For his first few Maine summers, he camped out in a state park and rented a room in town that he would use as an office.

Parker had road-tested his cold-molding method on SARAH and TERESA, and he poured that knowledge into his book. He cranked out the initial draft that first summer. Published in 1990, *The New Cold-Molded Boatbuilding* was reprinted by WoodenBoat Publications in 2005. Recently Parker has further developed his cold-molded techniques for hull and deck construction, and plans to write about it in an updated version of his book.

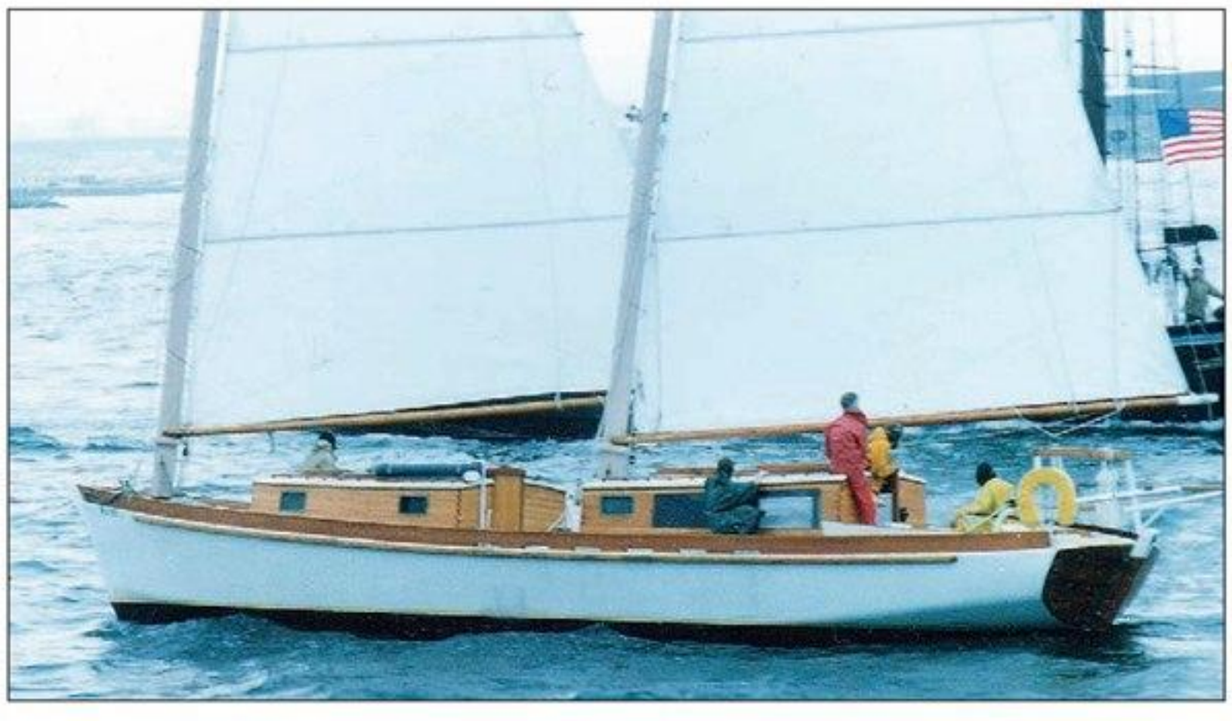
TERESA DE ISLA MORADA was Parker Marine's second cold-molded construction. Built to the Exuma 44 design, she was Parker's "trial horse. We beat the hell out of her," he recalls. "We ran her aground, she got hit by lightning, she capsized in the Mayor's Cup race." She also easily made 9 knots with a pair of 10-hp outboard motors. She's alive and well today, sailing as SHEARWATER.

To this day, Parker remains a tireless advocate for cold-molded wood construction. "If you're only going to build one, one-off custom boat, cold-molded wood is your straightest shot," he said.

For Parker, the list of virtues is compelling: cold-molded wood produces very strong, durable, light hulls that require minimal maintenance. Additionally, building can be done inexpensively with a minimum of toxicity. "It's extremely versatile and very practical," he concluded.

With the success of *The New Cold-Molded Boatbuilding*, his editor at IM suggested another book, on a topic equally close to Parker's heart: sharpies. Originating in the 19th century for oyster fishing, sharpies are simple inshore daysailers, shoal-draft with a centerboard, elegant, fast, and in their modern iteration, made of plywood. They fit Parker to a T. He wrote *The Sharpie Book* even faster than *The New Cold-Molded Boatbuilding*. He loved the research, and spent countless hours digging into museum collections and the books and government papers of Howard I. Chapelle. "Chapelle was an extremely important influence," he noted. *The Sharpie Book* was published in 1993.

Over his career, Parker has accumulated more than 500 books and 30 historic pamphlets that he uses as inspiration in his design work. The titles are varied and span centuries. Parker raves about the brilliance of Chapman's *Architectura Navalis*, written in 1768 and from which he learned about whole molding. (He adapted the technique to create what he calls a "master curve"—a shape used to develop most of the molds in his hulls.) Then there are the half dozen authors who documented the 18th- and 19th-century Chesapeake Bay area, M.V. Brewerton—who focused on bugeyes—and Chapelle among them. Others among Parker's influences include: Isaac Webb, N.G. Herreshoff, Sparkman & Stephens, Ralph Munroe, Thomas



The Commuter 36 BIG GIRL is a modification of Parker's original, extreme shallow-draft Commuter 36 design. This second-generation model addresses concerns over pounding in a seaway by adding a moderate V to the bottom; this increases the draft by about 1'. The newer version displaces 500 lbs more than the original 5,500-lb boat. Sea Island Boat Builders of Charleston, South Carolina, built BIG GIRL.

Clapham, and John Alden. "My inspirations have always started in history," he said. "I still have one foot firmly in the late 18th century."

Parker often travels to research design. He can be found in Mystic Seaport, the Smithsonian, or perhaps a more local venue in Florida or Maine. "I haunt the museums," he explained. "I hang out in bookstores and libraries. I comb the beaches and the boatyards. I do my research wherever I can."

About 12 years ago, Parker found a rotting Sea Bright Skiff behind someone's house in Surf City, New Jersey. He made sketches. The original skiffs were 15′–16′ life rescue boats commonly launched through breaking surf. Over time the design grew in length and evolved to include coastal fishing and oystering boats. Parker now has seven Sea Bright designs geared toward day-sailing and cruising, and ranging in size from 13′ to 50′ LOA.

"I took the historical type and developed it to the max," he said.

When Parker sat down to draft his masterwork, LEOPARD, it took only a few weeks. The design had been percolating for years. He built the 75′ schooner over two winters for $125,000 in materials ($175,000 in labor). After several years of sailing her

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between Maine and Florida—a trip he was known to make solo—Parker was ready to set out for the South Pacific. But on the eve of his departure, he was diagnosed with stage four squamous-cell carcinoma. It was 1998 and he was given a 30 percent chance of survival.

"I fought tooth and nail," he said. "I had good doctors. I had a lot of help."

He qualified for a program that paid for radiation, but he was still responsible for the doctors' bills. He had no insurance, and the medical expenses wiped out his savings. He was forced to sell LEOPARD, but he beat the cancer. "I consider myself very lucky," he said.

With the illness behind him, Parker wasted no time before diving into his next project. He used proceeds from the LEOPARD sale to build the 65′ LOA ketch T'IEN HOU, a modernized lorcha; a 16th-century vessel developed by the Portuguese community in China, it combined Chinese junk rig technology with European hull technology. Parker gave T'IEN HOU a three-masted lorcha rig (akin to a Chinese junk), but after sailing her to the Bahamas he scrapped the foremast and switched to a gaff-ketch rig with twin headsails and a sprit-rigged mizzen. It was around this time that Parker's design work took an unexpected turn.

Designing powerboats had never been part of Parker's original plan. "I wanted to design boats for healthy young people that wanted to cruise," he said. But a 1997 commission led him to design the Commuter 36, a small powerboat built to explore the Everglades. In true Parker style, the Commuter was light, efficient, and inexpensive to build, own, and operate. It quickly became his most popular design. Before long, Parker had designed a Commuter series ranging in size from 27′ to 50′, and like his sailboats before them, his powerboats were soon being written up in magazines. Today, Parker has added a design catalog dedicated to powerboats.

Five years ago, with the encouragement of Tom Lokocz, Parker purchased land in Appleton, Maine, next door to his old friend. A longtime snowbird, Parker now spends every summer there, from May Day to Halloween. His clearing is in a mature hardwood forest. It holds a barn and cabin, while tucked beneath the canopy are a portable sawmill, drying sheds, and a small shed that holds his washing machine. His office is located in a corner of the barn attic. Visitors find a desk cluttered with sticky notes, a drafting table with plans for a timber-frame house that he hopes to build here, and rugs covering a basswood floor—no shoes allowed.

About 12 years ago, Parker purchased a scanner and digitized hundreds of original paper drawings. He now uses Photoshop CS to alter and expand existing plans. His Commuter 27 was designed entirely on the computer, utilizing the original scanned drawings of the Commuter 36 as a starting point. Nevertheless, he still returns to the drafting table with new designs, as

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he finds it too difficult to create sheerlines and master curves on the computer. "I've worked on the drawing board for 50 years," he said. "I still love it!"

At 65, Parker wants to emphasize designing and writing and move away from building. "My body is starting to talk to me," he said. "I'm pretty healthy. But you know, there's a limit." One project is an upcoming article for *Professional BoatBuilder*: "Achieving Stability in Shoal-Draft Monohulls," a technical collaboration with Lokocz.

When discussing Parker's designs, the conversation inevitably circles around to a debate on the offshore capabilities of shoal-draft hulls. "Reuel consciously considers stability in all of his boats," said Lokocz. To gain stability in his shallow-draft hulls, Parker commonly uses chine and flare, as well as keel boxes, wing keels, and centerboards to lower the center of gravity. He approaches the offshore shoal-draft debate with a question.

"What do you want to do with your boat?" he asks.

If, he continues, your goal is to sail to Antarctica, then a deep keel is appropriate. If racing is your thing, then a fin keel will do. If you're cruising and are interested in exploring bays, atolls, sounds, and rivers, then go with a shoal draft with centerboard. Reflecting the diversity of end use, Parker's design parameters vary. His pilot schooners are full-keeled, appropriate for open-ocean cruising; his sharpie designs, as a rule, are not self-righting and so not suited to tramping the world's oceans. "Most of my cruising designs are capable offshore," he said. "With qualifications...some are not meant to go out and get in heavy weather."

Parker Marine Enterprises is headquartered in Fort Pierce, Florida, where Parker has found a cheap slip rental in a small commercial boatyard with plenty of space to build boats. Despite the somewhat corporate-sounding name, he runs a small-scale business, and when not living aboard a boat, he lives in a contractor's trailer on site.

He's reluctant to give out his address. "Basically, I'm a workaholic," he explained. "I don't like to talk much. Talking is wasting time when you could be getting some work done."

To illustrate his point, he tells a story. Several years back, a pair of boatbuilders stopped by unannounced while Parker was building IBIS. They had copies of his books, were flattering, and wanted to talk. Parker ran them off. "I'm rude," he explained, "I say, look, I got a lot of work to do and I don't have time to talk to you."

The boatbuilders were persistent. On their third visit, Parker threw up his arms. He would talk if they returned at 5:30 with a six-pack of Bass ale. They did. To the chagrin of Parker's reclusive side, the pair became two of his closest friends. One of them even helped him build a blog dedicated to IBIS's construction.

Parker's current plan is to build his Appleton home and either live there indefinitely (seasonally, of course)

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BONITA is a 36′ sharpie based on Commodore Ralph Munroe's legendary sharpie EGRET. Built by Bill Smith, she's "a big cruising version of the original," Parker said. "Last I knew she was in Key West."

or sell the property and do something else. He's leaning toward the second. While Maine has come to feel like home, landlocked Appleton remains "way too far from the water" for Parker's liking. Yet, when it comes to his next boat, Parker doesn't waver. He has already designed his sailing retirement home—a 45′ motorsailer. "If I had my druthers, I'd be building it right now," he said.

A serious liveaboard, it will be solar-powered except for the diesel engine that Parker estimates will burn 1½ gallons per hour at 10 knots. When teased about retiring to a boat that fits into his motorboat catalog, Parker explained that he still wants a real sailboat, just one that goes as fast with or without the wind, and will protect him from the elements while at the helm. He wants to be comfortable; he expects to live aboard full time.

"I've always maintained my freedom and I've always devoted myself to my work, and I love it. I love designing boats, building them, photographing them, writing about them, and I do it seven days a week."

Until, that is, the Bahamas calls and he adds some sailing to the mix.

Donnie Mullen is a writer and photographer who lives in Hope, Maine, with his wife and daughter.

Over the next several issues of this magazine, Reuel Parker will present a series of design briefs of his contemporary interpretations of historical boats.

You can read more about Reuel's early cruising life in his book, The Voyages of Fisher's Hornpipe, *available at www.parker-marine.com.*

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The Scrub Plane

What it is and what it does

by Jim Tolpin
Photographs by Craig Wester

The scrub plane is a small, narrow plane dedicated to the work of "scrubbing" off wood quickly, producing shavings up to 1/16″ thick. For "hogging out" wood on relatively small-scale projects, I choose the scrub plane over more aggressive wedge-type tools such as hatchets and adzes. Instead of using a hand ripsaw, I also use the scrub plane to taper a board or to quickly reduce its width when only a quarter of an inch or so needs to be removed. And using a scrub plane across the face of a board quickly removes waste to bring it down to the right thickness.

I'll often use a less-aggressive type of cambered-blade scrubbing plane—a bench plane modified into a "fore plane"—in lieu of the scrub. I use a fore plane, which is described below, when I'm looking for more control when approaching cutlines or if the scrub plane is causing too much tearout.

The Scrub Plane

In the preindustrial age, the scrub plane was a small, wood-bodied bench plane fitted with a strongly cambered blade. The plane body was essentially a fixture for carrying a gouge across the wood. All-steel versions made during the 20th century are commonly carried by vintage tool dealers, and new tools are also available.

As you can see in the drawing, this unusual plane has a thick blade whose cutting edge has been ground to give it a dramatic camber with a radius of as little as 3″. The plane also does not have a chip-breaker or

***Above, photo*—A stable of scrub planes meets a variety of needs. From left to right are a vintage Stanley scrub, a new Veritas scrub, a Lie-Nielsen No. 6 bench plane modified with a cambered blade, and a traditional wood-bodied plane with a cambered blade. *Above, drawing*—Scrub planes have in common a cambered blade, a comparatively wide mouth to allow shavings to pass, and the lack of a chip breaker. Purpose-made scrub planes like the Veritas model shown in the drawing are easier to set up than jack planes, but the curved blade is harder to hone.**

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SHARPENING AND TUNING CAMBERED PLANE BLADES

1—After using a grinder to shape the blade's camber and honing the primary bevel, use a sharpening stone to put in the microbevel. This is the starting position.

2—Here, the blade is just past the middle of the stroke. Note that the blade is rolled to about its midpoint.

3—By the end of the stroke, the blade has been rolled to its opposite edge. Repeat these honing strokes, moving diagonally between opposite corners for even wear on the stone.

4—For those who prefer using a jig, a side-capture type with a narrow wheel allows the blade to be rolled while holding a constant microbevel angle.

Although scrub planes and fore planes don't have to be honed to the standards of bench planes, which are used to make surfaces true and perfectly smooth, they do have to be sharp.

I find that the easiest way to get a sharp edge on a cambered blade is to grind the radius to a 25-degree primary bevel that is either dead flat across its width or slightly hollow-ground. If the bevel is at all rounded, a small and accurate microbevel—which is key to honing a quick and effective cutting edge—will be difficult to make. Also, if the microbevel grows to more than 1/64" wide, I strongly recommend regrinding the primary bevel. Too large a microbevel not only requires more time to hone because there is more metal to remove, but also makes it more difficult to reference the primary bevel when freehanding the microbevel.

Assuming you have ground an accurate primary bevel, you can freehand a microbevel. First, set the blade on the 1,000-grit sharpening stone at a far corner in such a way that the primary bevel lies flat against the stone. Now lift the blade slightly (about 5 degrees, which can be achieved by raising the back of the blade about 3/8"). Draw the blade toward you with your elbows locked to your sides to help maintain the microbevel angle. Roll the blade as you approach the opposite corner near you. Start at the other corner and repeat, creating an "X" pattern on the surface of the stone. As soon as you feel a burr develop on the flat side of the blade, stop. Turn the blade over, and rub off the burr on the stone. With practice, you should be ready to go back to work in under a minute. If you aren't comfortable yet with freehanding, an alternative is to lock the blade into the type of jig that has a narrow guide wheel, then follow the same procedure outlined above and shown in the photos. —*JT*

cap iron. A large, curved mouth opening ahead of the blade allows large shavings to pass through. The body of the scrub plane is narrow and short, keeping the tool lightweight and the width of the shaving narrow, which eases work that would otherwise be too much for most mortals to bear for very long.

Using the Scrub Plane

You will find that this tool works best when used on air-dried wood with at least 15 percent moisture content. In such wood, the fibers are comparatively pliable and easy to plane.

Begin by adjusting the depth of cut to be appropriate for the toughness of the wood species, with the aim of finding a balance between ease of work and speed. Start with the blade extending about 1/32" below the plane body. If that goes easily, tap the back of the blade with a light hammer to extend the cutting edge out a little farther, checking to be sure the hold-down screw hasn't loosened, and see how that goes. If you need to

***Above*—The blade of a scrub plane can have a dramatic radius, 3″ in most cases. Note that the mouth is strongly curved as well, allowing passage for shavings that may be up to 1/16″ thick. *Right*—To increase a scrub plane's depth of cut, gently tap the back edge of the blade with a lightweight brass mallet.**

retract the blade a bit, back off the hold-down screw, reset the blade, and retighten the screw. Be sure to always lift the tool off the wood for the return stroke to extend the working life of the cutting edge.

Scrubbing Faces

When hand-planing the face of a board—which was the most common way of reducing thickness before machine tools came into widespread use—or when rough-shaping the face of a large joint such as a scarf in a keel timber, it's important to work directly across the grain. Using a sharp blade, this technique greatly reduces tearout while allowing you to take off thick shavings. To avoid tearing out fibers, first run the plane along the far edge to create a bevel extending down to the cutline. As an additional caution, try to scrub the face of a board to thickness before cutting it to its finished width, so that any tearout will be cut away when the plank is cut to its final outside dimensions.

If you have to remove specific high spots in some areas of a rough-sawn plank, take quick strokes directly across the grain in these areas until they are flush with the surrounding surface. Then go with full-width strokes. On boards 8″ or less wide, set the plane diagonal to the cut direction so that the length of the sole is well supported, which will help to achieve a flat surface.

To reduce the chance of tearout when planing with the grain, especially along an edge as shown, start at the exit end of the cut and work back from it. Another precaution is to plane bevels accurately to the cut lines on each face, then remove the waste left in between.

Scrubbing Edges

To avoid tearout when planing edges, start working on the far end of the board where the plane exits the cut and then work your way back. This strategy allows you to quickly reverse the board if the first pass at the far side indicates you're working against the grain. Be cautious when working near obvious cross grain and knots, because the large mouth opening ahead of the blade will increase the chance of tearout.

You can use the scrub plane in lieu of a drawknife or a bandsaw to quickly cut the curved and beveled edges of a board close to its cut lines. First, mark each face to indicate the extent of the cut. Next, plane a bevel down on each side in turn, then remove the "mountain" in the middle. Remember to start at the far end of the board and work back and to change the direction of your stroke if you get tearout. Be sure to stop planing before reaching the line so that you can make the final cuts smooth and true with your more accurate jack or try plane.

A quick way to reduce plank thickness is to use a curved-blade scrub plane directly across the grain. Here, the plane is skewed to reduce effort, minimize tearout, and maximize the sole's contact with the surface to produce a relatively uniform rough cut for final finishing with smoothing planes.

The Fore Plane

Whether working on faces or edges of really dry or tough wood, you may want to choose the less-aggressive fore plane to make the work easier. Wood-bodied fore planes were probably the most common type of plane

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MAKING A BENCH PLANE INTO A FORE PLANE

To make a fore plane, grind a camber into the blade of a jack plane, hone the cutting edge, and then enlarge the opening to parallel the blade's curvature, which will allow thick shavings to pass through unimpeded.

Card stock templates work best to lay out blade camber. For a jack plane blade, a 6" radius works well. A 3" radius for a narrow scrub plane blade allows highly aggressive cutting, and an 8" radius is best suited for the wide blades of large bench planes.

A hand file works well to shape the mouth opening, which I mark with a felt-tip pen using the blade camber template.

Choosing a radius for a plane blade camber depends on the width of the blade itself: I use a 3" radius for a 1½" blade, 6" for a 2" blade, and 8" for a 2 5/16" blade. The higher the arc, the more aggressive the cut will be. After making a card-stock template matching the width of the blade and accurately rounded at one end to the appropriate radius, place the template on the face of the blade and trace the curvature onto the metal with a fine-tip felt pen.

Grind the radius and sharpen the blade (see sidebar, page 49). After the blade is ready, fit it into the plane and reinstall the cap iron. Set the cap iron as close as possible to the blade edge, but make sure it is backed off enough so that its outside corners don't overhang the curved edge at the sides of the blade. You may have to grind back the corners if the configuration of the cap iron slot and the adjustment lever make it impossible to retract the blade enough to adjust for a shallow cut.

Check to be sure the plane's handles are not split. If they are, then glue them with epoxy. Also check the hold-down screws to be sure they are secure and not stripped, but don't overtighten them.

Make sure the blade doesn't rock on the face of the frog, which you may have to file flat for a good fit. Move the frog all the way back, but be sure that the back of the blade is not resting on the sole—it must be fully supported flat on the face of the frog.

The gap in front of the blade should be at least 1/8" to accommodate the thick shavings a fore plane is intended to produce. If necessary, file the front edge of the throat opening to gain this amount of gap. The opening can be curved, which saves filing time. Note, though, that widening the mouth is irreversible—your plane will never be useful as a bench plane but will instead spend the rest of its life dedicated to roughing-out work. —*JT*

found in a traditional boatbuilder's tool kit, since they and the more robust scrub planes were the go-to tools for preparing stock before it was finished to its final dimension with a try plane.

Although its shallower blade camber doesn't allow the fore plane to cut as quickly as a scrub plane, it is easier to control and therefore presents less risk of overshooting cutlines. Its tighter mouth and shallower cut also lessen the chance of causing tearout in cross-grain and around knots. The fore plane's mass is also helpful for taking strokes that are wider and longer than those of the much shorter and narrower scrub, but the downside is that it is heavier, which you'll notice when you have to lift it for the return stroke.

You probably already own a fore plane and don't know it. It is simply a No. 5 jack or No. 6 bench plane fitted with a cambered blade (see sidebar above). You can also make a lightweight fore plane from a wood-bodied bench plane. The wooden plane shown in the opening photo of this article (see page 48) is one I made this way, and now it is my tool of choice for nearly all but my most aggressive roughing-out work.

Jim Tolpin lives in Port Townsend, Washington, and is currently teaching hand-tool woodworking at the Port Townsend School of Woodworking (see www.ptwoodschool.org).

SERAFINA CARLUCCI

The Wee Pup

A small, able tender in the wake of the Monhegan punt

by Darin Carlucci

Winfield Thompson needed a dinghy. A prolific contributor to *The Rudder* magazine more than a century ago, Thompson had purchased a cruising catboat, and "bethought me a tender that should be unlike most small tenders.... I had seen safe tenders for small boats; but they were nearly as large as the boats themselves." He also recalled several tenders derived from flat-bottomed skiffs, "having neither form, weight, nor substance in the right place." One in particular had come as equipment with a boat he'd chartered, and he dubbed it "COFFIN LID." Enough said.

In his new tender, Thompson sought these traits: (1) the ability to carry two adults safely in smooth water, (2) the ability to be carried on the deck or in the cockpit of a singlehander, (3) good towing ability, and (4) simple construction and moderate price. The resulting boat, which Thompson designed himself and called WEE PUP, was modeled after a Monhegan punt which he'd measured on a visit to that Maine island.

The Monhegan punt is a short, high-sided, pickup truck of a boat. With its pram bow and stern, ample beam, high sides, and flat bottom, the boat could carry a load, stand on its feet, be rowed well, and be carried ashore or hauled aboard and stowed on even a small cruiser. It looked a bit like a dory with its ends trimmed off and the resulting openings capped with transoms. I can imagine that Monhegan fishermen were very attached to these boats not only for their load-carrying ability, but also because they could be hauled up the beach—a necessity at Monhegan, given the island's exposed harbor and lack of a suitable space to tie up a floating dinghy.

Thompson developed a set of lines, based upon this working boat, that he thought would serve nicely as a yacht tender. At 7½′ long and able to carry four people, or 700 lbs, the Wee Pup design became very popular—so popular that the great yacht designers B.B. Crowninshield and W. Starling Burgess had Wee Pups built for themselves.

Despite the passage of more than a century since Thompson conceived Wee Pup, the boat's qualities are still alluring to today's coastwise cruiser. A quick study

***Above*—Winfield Thompson introduced the small, high-capacity dinghy Wee Pup in 1906. Recently, the Carpenter's Boat Shop in Pemaquid, Maine, built two versions of this boat: the glued-lapstrake-plywood one seen here, and the solid-wood model seen on page 55.**

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THE RUDDER, JANUARY 1906

As part of his praise for the Wee Pup in a 1906 *The Rudder* article, designer-writer Winfield Thompson (above) published this series of photographs showing the boat being progressively loaded with passengers.

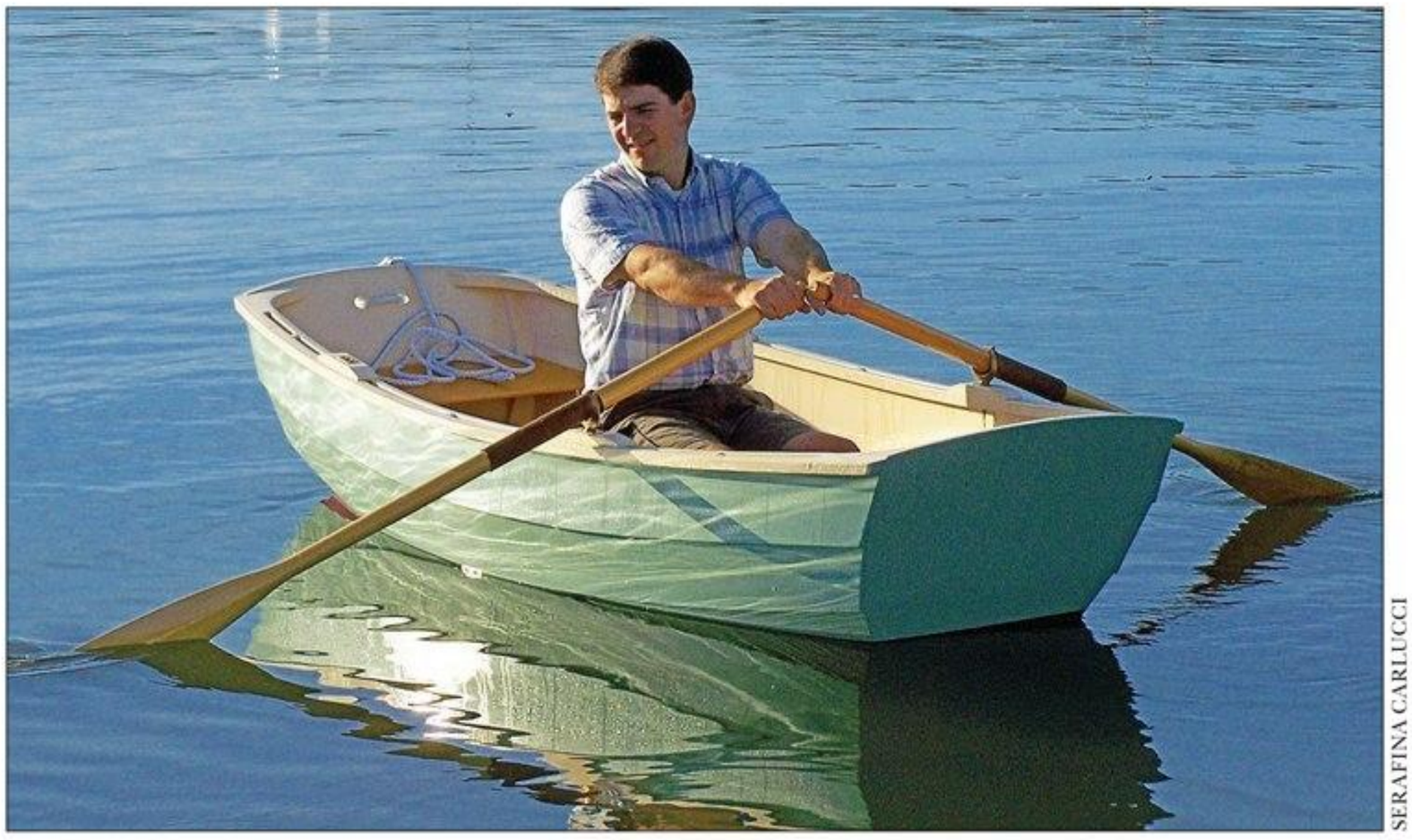
of the lines, in fact, reveals that the shape has great potential for construction in lightweight glued lapstrake plywood. But in order to experience this boat, a new one had to be built, for I knew of no surviving examples.

The drawing that Thompson submitted to *The Rudder* in 1906 lacked construction details, but it faithfully recorded the shape of Thompson's own boat. Indeed, Norman Skene drew these published lines based upon that boat's measurements. Walter Wales, a yacht designer and engineer from Chamberlain, Maine, recently produced a thorough set of plans for either a solid wood or a plywood version of Wee Pup. And at the Carpenter's Boat Shop in nearby Pemaquid, where I work as a boatbuilding instructor, we subsequently built one of each.

Based on the photographs published in the January 1906 edition of *The Rudder*, the Pup was likely built dory style, meaning that the fore-and-aft bottom planking went on first, followed by garboards that overlapped the bottom's edges. (Later skiffs at Monhegan would have cross-planked bottoms, installed after the sides were in place.) I can imagine a builder being able to crank out a bunch of either of these boats, even with the island's limited resources. For the bottom and sides, the Wee Pup has a total of just nine planks, all of similar length. There are the two transoms to be built, of course, but no substantial backbone pieces like a stem or keel.

Once both transoms are made and set up on the building jig at the correct rake, all that is needed are three station molds in order to begin planking. The solid wood boat would use sawn frames in lieu of these temporary station molds. For both the solid wood and the plywood boats, the beveling and cutting of gains on the plank ends are the same. The plywood planking goes together quickly with thickened epoxy in the plank's laps. The combination of glued laps and plywood makes frames unnecessary, because plywood is strong both athwartships and fore-and-aft; solid planks require the additional support of frames running across the grain. Though having ample rocker, the Pup

The glued lapstrake plywood version of the Wee Pup has no frames, allowing for an interior that's easy to bail and clean.



SERAFINA CARLUCCI

is not so curved as to prevent the bottom from being made from a single sheet of ⅜″ plywood.

After the Pup is off the building jig and flipped right-side up, the boat is fitted with thwarts and knees. A seat riser adds stiffness and establishes the heights of the thwarts. After all the quarter knees are installed, the rails can go on (see WB No. 223), followed by the oarlock pads. We put a small skeg on the bottom in order to help the little boat track straight—both when towed and when rowing; this detail is absent from Skene's drawings, and doesn't appear in published photographs of the original Wee Pup. It being short, Wee Pup is inclined to yaw from side to side without this skeg. The finishing touch is the painter, which is spliced through the bow transom—a simple and elegant touch befitting the boat's heritage.

Both the conventionally planked Wee Pup and her glued-plywood sister cut handsome figures. The warmth of the oiled-cedar planking on the lapstrake pram works its magic with the sawn oak frames, copper rivets, and floorboards. We finished this one with a sculling notch, which allows for single-oared propulsion in tight quarters, or in the event of a dropped oar. We didn't weigh this cute little boat before we sold it, but it's a safe bet that it's a bit heavier than the plywood one.

The plywood Pup panders to my desire for efficiency and cleanliness. With no floorboards or transverse frames, the plywood Pup would be easier to bail—a small yet practical detail. It weighs about 100 lbs, which makes it easy to haul aboard or carry. As with all plywood hulls, though, the final product feels more rigid than the cedar-planked boat. Cruisers seeking a compact tender would enjoy the plywood Pup's ability to hold out the water upon launching; solid wood boats need time to swell up, especially after a length of time ashore. I can see this boat hanging nicely from a small set of stern davits. The addition of sacrificial rub strips on the bottom would prevent chafing on the hull while it is dragged up the beach.

As you can see from the photos, what this petite pram lacks in length, she makes up in beam and freeboard. So, there's plenty of reserve buoyancy. Like a traditional dory, this boat is just going to get more stable with weight aboard. Though I was unable to try it myself, I came up with many photos of old-time fishermen filling the boats like this to capacity. Winfield Thompson, in his 1906 article about the Pup, created his own load-carrying test: A series of four photos shows the boat carrying, first, just Thompson (175 lbs), then a companion who brings the total to 305 lbs, then another person (522 lbs), and finally a fourth, bringing the total payload to a whopping 692 lbs. The looks on the faces of those aboard are more of enjoyment than concern.

Winfield Thompson was quite interested in the shipability of the Wee Pup. "The punt," he wrote, "must be short enough to stow across the cockpit of my boat." His catboat was 10′6″ wide, and the cockpit measured about 8′. "To be on the safe side," he continued, "I would make the punt 7 feet six on top, and about 6 on the bottom." This created a boat with less-raked ends than the original Monhegan boats, and it raised the freeboard "a bit." The boat can also easily fit on the foredeck or behind the mast on many a cruising boat. It should tow easily with the painter spliced through the bow transom as it is, though the small hull might need some weight aft to keep it tracking at high speeds, and to keep the bow transom out of the water. A photo in Thompson's article shows the boat riding comfortably astern of the catboat, at a good clip, with the bow transom riding high. Another image shows the boat resting comfortably on the catboat's starboard stern quarter—a good place for it in a bow-tripping chop.

I was skeptical of the Pup's rowing qualities before I made my first outing in the boat. I'm familiar with similar fiberglass designs, and I was certain that this boat would be tender and squirrelly. I was also concerned about the length, with the rower taking up so much of the boat from the 'midships thwart aft. But my fears were unfounded: This truly is a big little boat. The Pup didn't feel as cramped or as tender as I had expected. With its rockered bottom, the boat maneuvered easily through clustered moorings and up to a dinghy dock. But, without a pointed bow, she will never cut her way through the chop when fully laden. On the other hand, her bow shape will offer more buoyancy for her overall length when loaded down. If you're rowing alone, the bow and stern seats provide a space for groceries or bags that keeps them out of the bilge. The rower should use the forward rowing

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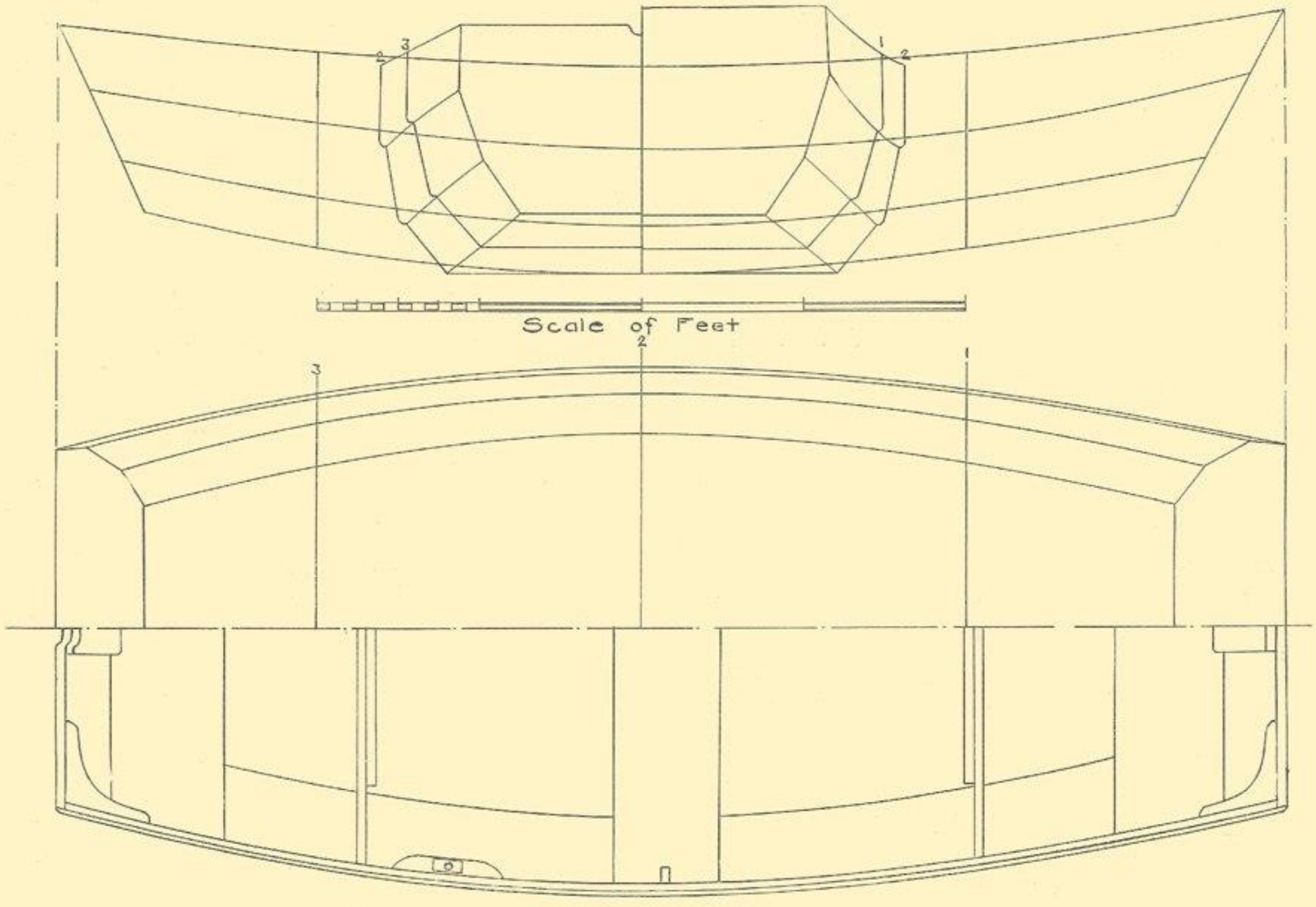
Wee Pup Particulars	
LOA	7′ 10″
Beam	3′ 3″
Depth amidships	15½″

Wee Pup's lines, shown here, were taken from the finished first boat and drawn by Norman Skene for the January 1906 edition of *The Rudder*. Walter Wales has recently created a set of building plans for the boat (see ordering information below).



station when loaded down in the stern with passengers or cargo.

The only change that I would be interested to see would be fitting Wee Pup with a fore-and-aft 'midship seat, for easier movement and more flexibility for those with longer arms. It's a proven concept, appearing in dinghies by John and William Atkin, as well as in Harry Bryan's wheelbarrow boat (see WB No. 209).

The fishermen at Monhegan eventually adopted their flat-bottomed skiff in lieu of the square-ended Monhegan punt. That's a fine little boat too. In fact, it's one of the stock offerings of the Carpenter's Boat Shop. With its flat bottom and ample rocker, it, too, is an able rowboat that has proven very popular with fishermen and non-fishermen alike. But the Wee Pup is a head-turner. Thompson wrote of his first season with the boat that "Nothing like it had ever been seen in Boston waters, and people were as pleased with it as a cat with two tails. I was as busy as an old maid with twins, telling its good points and showing it off."

Darin Carlucci, a boatbuilding instructor at the Carpenter's Boat Shop, lives in Pemaquid, Maine, with his wife, Serafina.

Order plans for Wee Pup from Walter Wales, P.O. Box 43, Chamberlain, ME 04541; wwales@tidewater.net. Price for the set is $80.

Visit www.woodenboat.com to read Winfield Thompson's 1906 The Rudder *magazine article about Wee Pup.*

The Carpenter's Boat Shop's interpretation of the original Wee Pup pram, with a brave and trusting crew. There's room for one more person.

SERAFINA CARLUCCI

BENJAMIN MENDLOWITZ

Shantyboat Renaissance

A simple floating home for a complex world

by Harry Bryan

Near the end of our three-year, world-roaming cruise in PATIENCE, a 36′ ketch launched in 1988 (see WB No. 132), my family and I conceived a shantyboat. I had come to the conclusion that, for my family, much of the joy of cruising came from living in a small space where our needs for shelter and comfort were kept to the essentials. The endless list of chores to be done around the house did not exist. Gone, too, was the "need" (or even the possibility) of going to meetings, the mall, or the myriad other places we go when we get in the car and enter the crazy, stressful world of roads and traffic.

After the cruise was over, we thought we could continue to experience much of its value by building a cabin that floated on the simplest form of hull. To emphasize the intended simplicity of the structure and its contents, we would call it a "shantyboat" instead of a houseboat. There would be no inboard engine, no generator, and certainly no television.

During part of our voyage, we had cruised along the Intracoastal Waterway on the Eastern Seaboard of the United States and had passed countless lagoons, creeks, and bays too shallow for most hulls. Thus, these places offered uncrowded tranquility to anything drawing less than a foot of water—the perfect setting for a barge-like hull. We pictured a crisp fall day, sparkling and blue, with an exhilarating chill to the northwest breeze. Our shantyboat, swinging to the anchor, would provide a sunny lee for the cockpit deck chair while the woodstove inside would keep the coffee hot.

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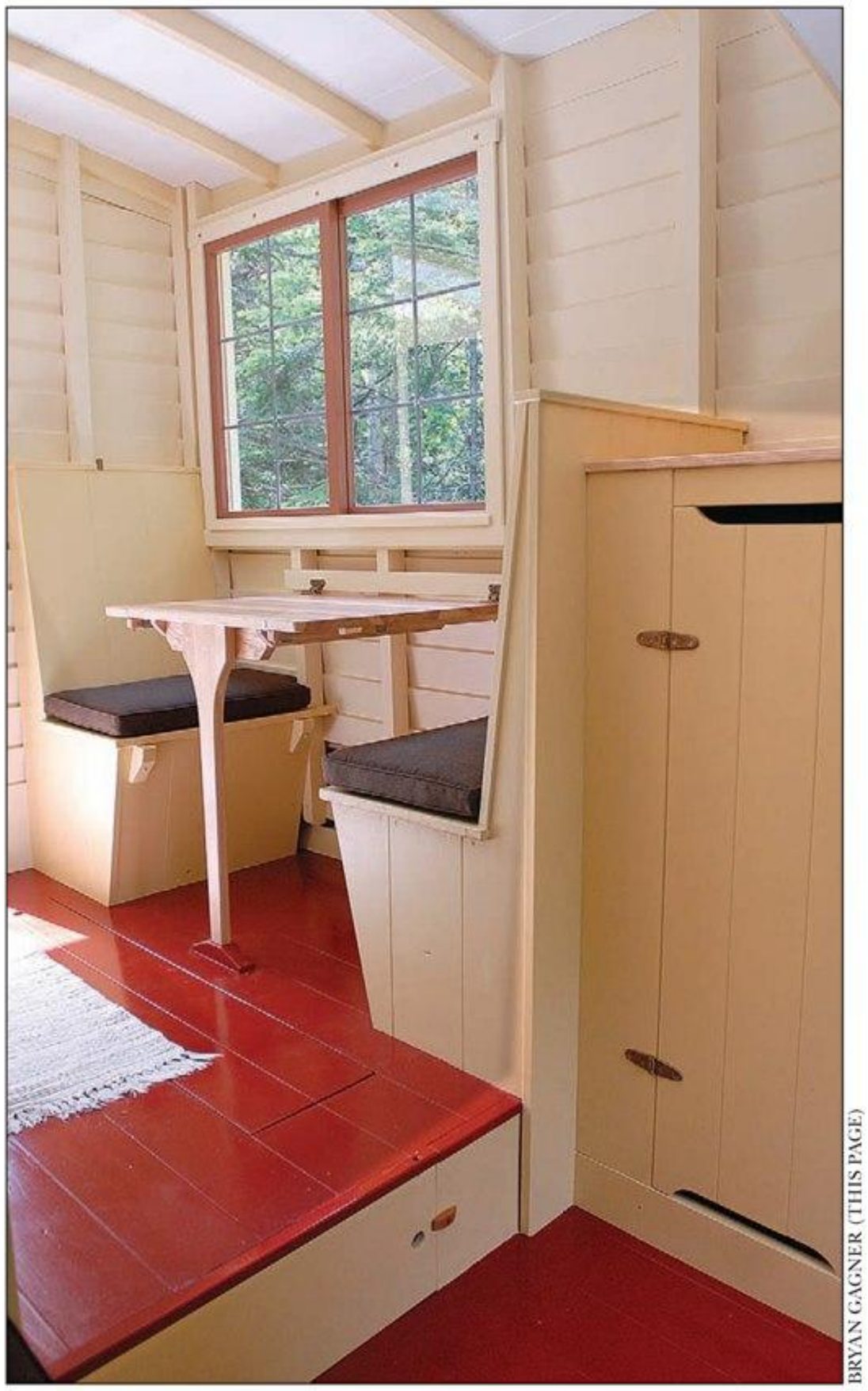
The author's shantyboat design (opposite, above, and right) is, essentially, a floating cabin of approximately 130 sq ft with clapboard siding, opening windows adorned by flower boxes, a wood-burning stove, and a spaciousness befitting a landside abode. The boat also nods to its nautical ancestry, with a graceful sheer, opening portholes, and built-in storage throughout.



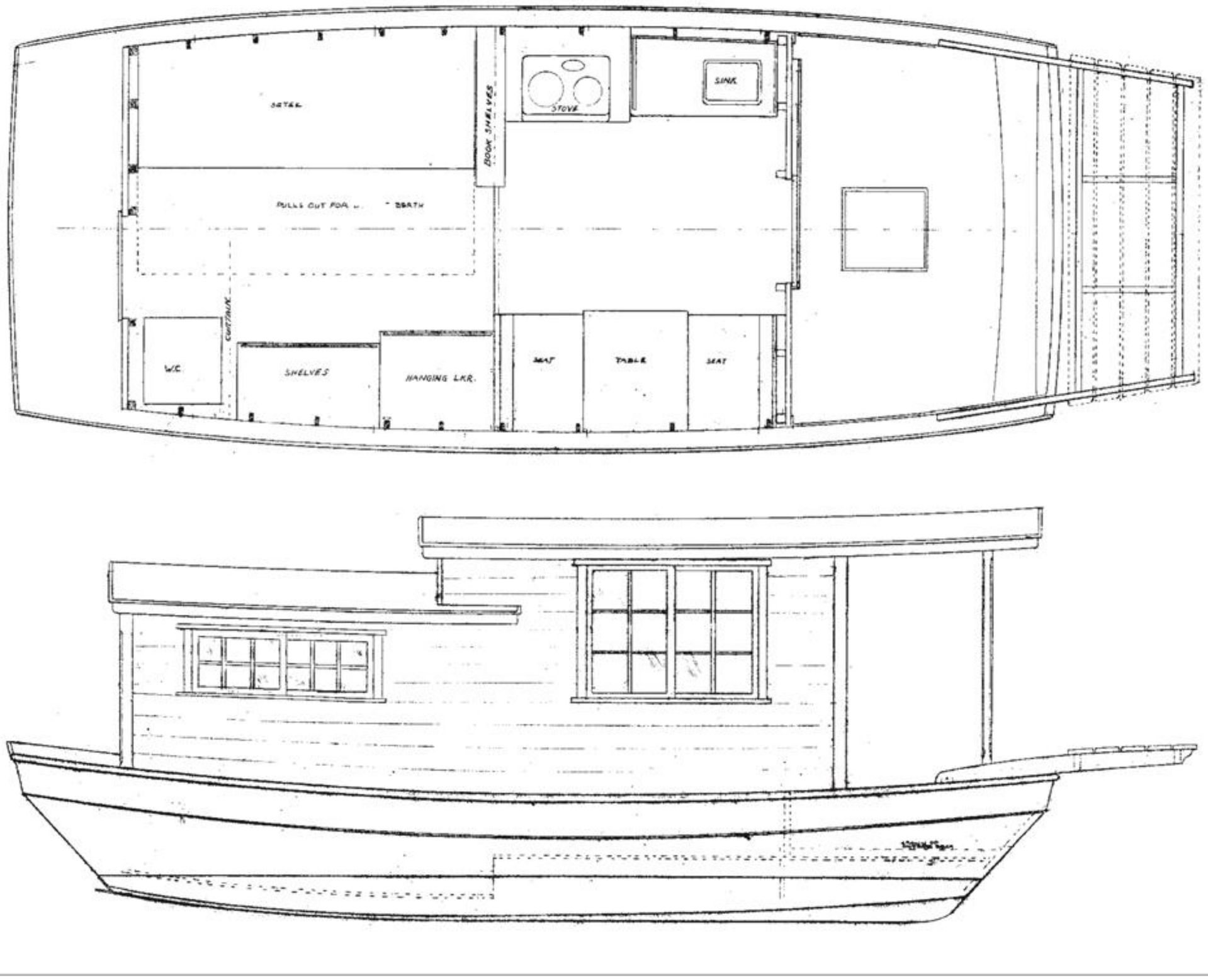
BRYAN GAGNER (THIS PAGE)

We drew up a preliminary design and had no trouble finding others willing to enter into a time-share agreement to help with the boat's building cost and upkeep. But time passed, and the usual demands of life kept us from starting the project.

Then, at the 2010 WoodenBoat Show in Mystic Seaport, a conversation with an old friend, Benjamin Guy, soon led to a commitment to build the design. It was far from a spur-of-the-moment decision for our friend, who had long been reading about 19th-century houseboating. He felt it was now time for him to own a simple, floating cabin.

Finalizing the Design

The boat we were to build would embrace this particular owner's desire to have everything as basic as possible. Yet, with only subtle changes, the design could appeal to a broad range of tastes, so long as they lean toward simplicity. Thus, while the prototype would have a composting, carry-ashore bucket for a head, there was to be space allowed for a commercial composting toilet, and even space under the cabin sole for a holding tank if one wanted a flush toilet. There would be no electricity on this first boat. The soft glow of kerosene lamps, enhanced by an off-white paint scheme, would answer for lighting. But the design would easily lend itself to solar panels and a battery for modest electric needs.



HARRY BRYAN

Harry Bryan conceived this 20′ LOA (8′5″ beam) shantyboat while on a three-year, bluewater cruise with his family, when he discovered that much of the joy of that experience came in living in a small, simple space. After that cruise, he drew detailed plans for such a boat, and later refined them to meet a client's wishes for the boat in these drawings and in the accompanying photographs.

This shantyboat's hull is 20′ long with a beam of 8′5″, since most states require a special permit for trailer loads over 8′6″ wide. While it would be tempting to add more hull length for an enclosed head, more berths, a front porch, etc, the goal of low cost, and simplicity in maintenance and transportation, argues for the shorter boat. It is also amazing how much room there is in a shantyboat's cabin compared to a sailboat or even a powerboat of the same length.

Inside the cabin, a settee along the starboard side forward pulls out to create a double berth, while to port are a hanging locker and shelves for clothing. A cushioned seat covers the head, while a curtain (sliding on a track) provides a modicum of privacy. Aft of the bookshelf that separates the settee from the galley is a small Shipmate wood-and-coal stove. A countertop for dishpan or sink with storage below completes the food-preparation area.

The after section of the cabin has 6′4″ headroom, while the forward headroom is 6′. When considering the overall height of the shantyboat, we decided on a split-level roof for several reasons: it provides visual interest to the boat's profile, lowers the windage at anchor, and increases ventilation and headroom in the aft section. She'll also be less likely to swing back and forth at the mooring than a design with a high forward structure.

A dinette to port features a table that can be lowered to seat level and, with the cushion brought aft from the head's seat, the area can be turned into a reading nook or short berth for a child.

A sliding door with screened window separates the cabin from the covered "back porch." Extending aft beyond the transom is a short deck where supplies can be landed from the tender. Standing on this deck affords good visibility to each side as well as a view forward over the roof. It is from this vantage point that the shantyboat would be piloted were she to have power—perhaps from an outboard-powered skiff secured alongside, "on the hip," in tugboat parlance. That same skiff would also be available for adventuring and trips ashore when the "mother ship" was at anchor. Alternatively, a transom bracket could carry a 9.9-hp four-stroke, high-thrust motor, which would be plenty of power for this craft.

Continued on page 61

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Reflections on Owning a Shantyboat

by Benjamin Guy

BENJAMIN MENDLOWITZ

The shantyboat is meant to stay put, though it can be poled from place to place—or motored, with a bracket-mounted motor or a small outboard skiff working as a yawlboat. The Wheelbarrow Boat seen here (see WB No. 209 for how-to-build instructions), also designed and built by Harry Bryan, lands the Shantyboat's residents on the beach with ease.

Together with a loyal pilot fish, our shantyboat meditatively noses about her mooring ball in a shallow bight of the West Branch of the Westport River in Massachusetts. Neither fish nor boat has much ambition to travel anywhere else. The mooring lies in 2′ of water at low tide off a long, wooded shoreline that we and our neighbors have placed under conservation easements so that an uninterrupted holly-and-oak forest will always descend to salt water, much as it might have done in the 15th century.

By day, kingfishers patrol the shore, ospreys soar on the updraft when the afternoon southwesterly meets the trees, and a solitary oystercatcher rests on the rocks at high tide before feeding on the flats as the river flushes. At night, screech owls whinny among the oaks, blue herons cough as if from a two-pack-a-day habit, and the surf booms on the barrier beach to the south.

From our shantyboat we enjoy the retrospection of our quarter-century of land conservation effort. In this sense she is a humble reflection of the villas that attended many great Western cities. While sometimes characterized as mere escapes from pestilential overcrowding, the grand villas of the wealthy were also sited to look back, both over the cities and one another, in reflection and admiration. The shantyboat looks back over our woodland in much the same way, though we rejoice in our trees rather than an urban landscape.

The inspiration for both the conservation effort and, later, the shantyboat itself, came from a chance meeting in the Bras D'Or Lakes of Cape Breton Island, Nova Scotia, almost 40 years ago with the yacht DIRECTION and her then-owner Charles Vilas. It was like seeing a ghost. DIRECTION had been wrecked in a Greenland fjord in 1929, and the event had been vividly described by Rockwell Kent in his book *N by E.* What had been neglected in that account was the fact that the 33′ cutter had subsequently been raised, repaired, and ultimately returned to the United States.

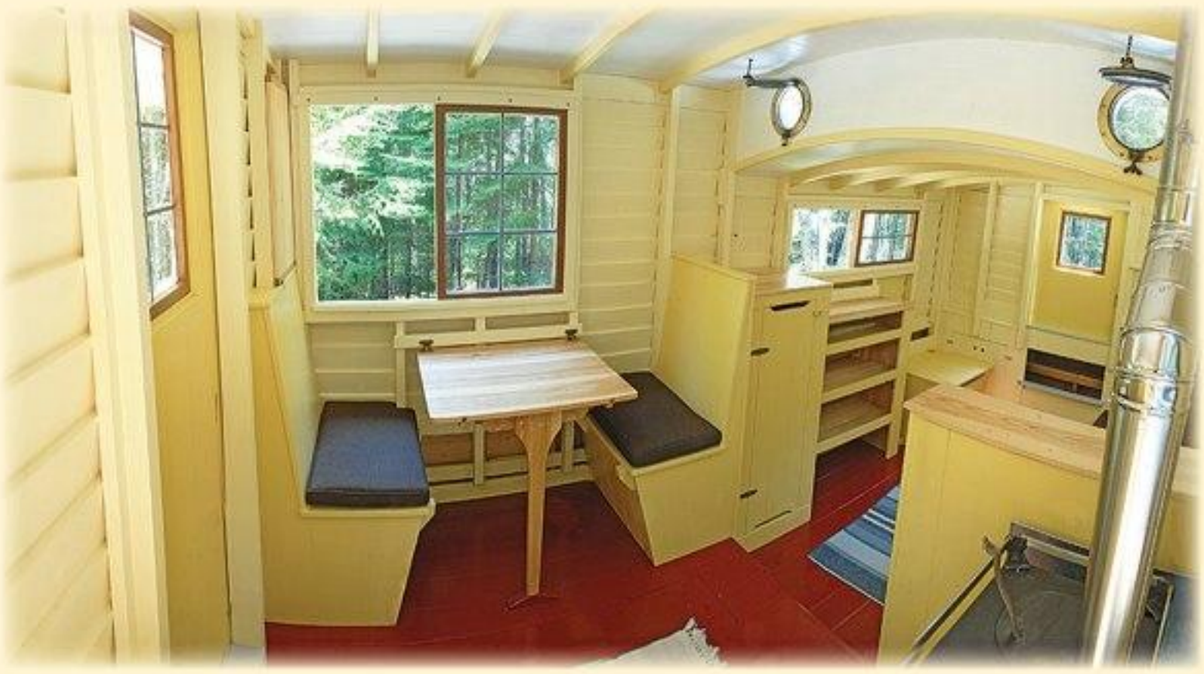
Vilas had bought DIRECTION in 1946 and yet, despite her 6′ draft and the addition of a false keel, he had found her less than weatherly. So he adopted a new strategy of use. He purchased land on both shores of the Washabuck, a short tributary to the Bras D'Or Lakes, and there, in the middle of the river, he anchored DIRECTION for the summer and just stayed there to admire the view and the bald eagles, then nearing extinction. It seemed to me an admirable and sensible thing to have done.

With only 2′ of water at low tide, the Westport River could not accommodate a DIRECTION, but it could float a houseboat.

The concept was a hard sell. Most of our friends envisioned the houseboats from the aesthetically challenged 1970s, which while giving thousands access to America's vast Midwestern reservoirs, resembled floating Havahart traps for enormous raccoons, but baited with beer rather than sardines. When I explained that we were not building a glass and aluminum Red Neck Yacht Club houseboat, but a real wooden shantyboat, first impressions were replaced by visions of Huck Finn's father retreating for a three-day binge aground on a muddy bank below Cairo, Illinois.

But, our shantyboat is different, both from these examples and from the houseboats of 100 years ago when the type was more common on the East Coast. It is simply better-looking. Straight runs, that could have produced a boxy appearance, give way to subtle, almost imperceptible, curves. The leaded-glass sliding windows and doors and the nasturtium-filled flower boxes lend it an almost storybook character.

The table, to port, can be lowered onto cleats, creating a bunk flat that converts the dining space into a cozy reading nook or child's berth.



To our surprise, friends who have deep misgivings about even the most benign marine adventures seem perfectly comfortable onboard. They can tell, simply by looking, that the boat is perfectly safe: It will not tip; they will not have to get wet; they will not be made to vomit; and no enraged captain will address them in archaic Dutch to slack the mizzen topping lift.

The complete absence of mechanical, electrical, and hydraulic systems—marvelous as they are—is a comfort to the more experienced. While there is a certain satisfaction to be found in repairing failures at sea, the increasing complexity of many yachts almost guarantees one or more breakdowns per voyage. Nor is our sense of unease limited to the boating world. The idea that we are surrounded by fragile systems that only a few people on Earth really understand is everywhere, in all our lives, in all our days. To escape it, however briefly, is a blessing.

The shantyboat is easily understood and comfortable for anyone, including my spouse, who has studiously avoided anything to do with boats for most of her life. Now she finds herself on the boat for supper most evenings, or engaged there with some ladies for a game of Scrabble on a hot afternoon.

And so, throughout this long, happy summer, we have daily slipped away from the modern world. Clutching our supper pail, we have driven the five minutes down the cart path, walked quietly through the woods and across the gravel beach, stepped aboard the little Wheelbarrow Boat tender, and rowed the short distance from shore to shantyboat. It is a physical process, but it is also a mental one; at each stage we find ourselves becoming more detached from modern reality so that—as my wife puts it—by the time of our arrival, we may only be a few yards from shore, but we are a million miles from all the things we worry about.

We avoided naming the shantyboat before using her, and at the WoodenBoat Show in June solicited suggestions. Most were easily dismissed, but one, BUTTERCUP, has stuck, reflecting the boat's welcoming aspect and cheerful yellow cabin interior. I couldn't have named her better myself.

Benjamin Guy lives on the Westport River in Massachusetts, sometimes ashore, sometimes afloat.

Here we are looking forward from the dining area to the sitting and sleeping space, where headroom is reduced from 6′4″ to 6′.

BRYAN GAGNER (THIS PAGE)

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Continued from page 58

While dreams of how to use this boat center on her life afloat, she could also provide a retreat or spare bedroom when hauled out off-season.

Building the First Shantyboat

It is always exciting to build the first boat to a new design, and while the design itself may be finalized on paper, there are often many decisions still to be made: What materials should be used? What level of finish? What paint colors? What fabrics for the interior? The simpler the boat, the fewer the questions, but even here there are still some choices to be considered—and not just those relating to sanitation devices and whether or not they should be added.

The construction of our shantyboat could have been simpler if we had omitted the rocker in the bottom and the curve in both the profile and plan views of the sheer. The house, too, might have been a box with right-angle corners. But we chose to include subtle curves, both for increased efficiency when moving through the water and to coax a smile from those who watch her swinging to her mooring. Furthermore, by introducing the subtle sheer in the eave of the housetop as well as the hull itself, we were rewarded in an unexpected way: The low point of the curve directs the runoff from the evening dew directly into the window boxes so that the maintenance of the nasturtiums has been reduced to a minimum.

There is no plywood in this first shantyboat, yet building her with that material would certainly be an option. We chose solid wood partly because we have a good supply of it and partly because we believe that it imparts a subtly appealing texture and feel—subtleties that can all too easily be lost with engineered materials.

The hull was built upside down over ⅞″ × 2″ oak frames placed at each station. The bottom is epoxy-laminated from two layers of ⅝″ cedar laid athwartships at 60 degrees to each other. Sides are single-thickness ⅞″ cedar, carvel planked, and caulked with cotton—except the garboard, which is edge-glued to the plank above, so that all seams below the waterline are glued, ensuring a tight hull.

The windows have true divided lights with lead cames. This sliding door opens onto the shantyboat's "front porch."

The house framing is spruce with the studs bolted to the sheer clamp as well as to a riser running below and parallel to the clamp. What appear to be clapboards should perhaps more correctly be called lapstrake siding, as they are not tapered in section as a clapboard would be. The laps are fastened together and left exposed inside to form the interior surface of the house. In order to present a pleasing appearance, the siding is lined off like the planks of a hull. This gives a smooth transition from the curve of the sheer to the more subtle curve of the roof.

The decks and housetops are of splined cedar, covered with canvas laid in outdoor carpet cement and saturated in epoxy.

Finally, there was the choice of windows. Clearly, these could have been conventional single-paned, sashed, double-glazed—just as in a house onshore. We decided on divided lights, as I feel they contribute to the overall look of the boat, and we chose to set them in lead cames (or muntins) because these are less obstructive to the view than heavier wood dividers would be. Furthermore, we found leaded windows significantly easier to build in a shop having no specialized sash-making equipment.

Construction of this first shantyboat was begun in October 2010 and completed in May 2011. She was first launched in the Westport River, Massachusetts, in June, a week before making her public debut at the 2011 WoodenBoat Show at Mystic Seaport. Final cost, including a Wheelbarrow Boat tender, was $75,000.

Contributing editor Harry Bryan lives and works off the grid in Letete, New Brunswick.

For more information: Bryan Boatbuilding, 329 Mascarene Rd., Letete, NB, E5C 2P6, Canada; 506–755–2486.

The settee to starboard can be pulled out to convert to a double bed.

BRYAN GAGNER (THIS PAGE)

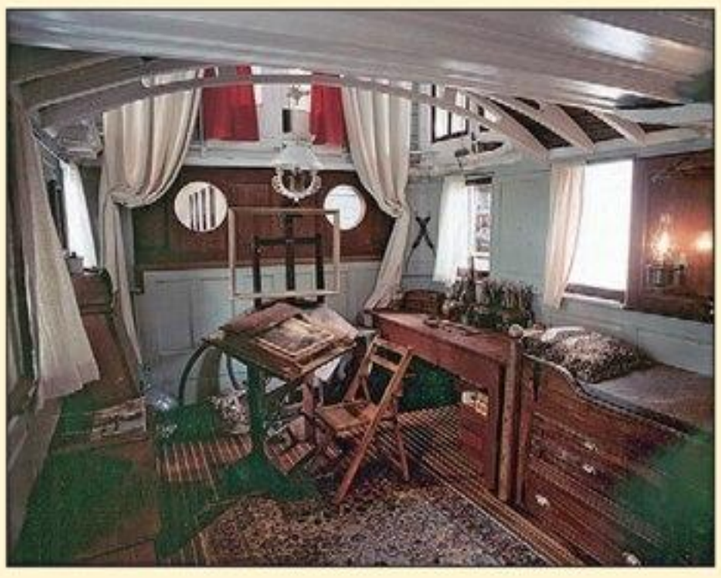
~Interpreting the Houseboat~

Throughout the 20th century, and now into the 21st, people have sought ways in which to escape the hustle and bustle of their everyday lives. For some, the answer has been a cabin in the woods, for others, an ice shack on a frozen lake. For still others, there have been motor coaches, simple cottages, yurts, even tents. And then there have been houseboats. As with most structures, houseboats have been, and continue to be, cut in many hues, from the simple to the extravagant, from the large to the small.

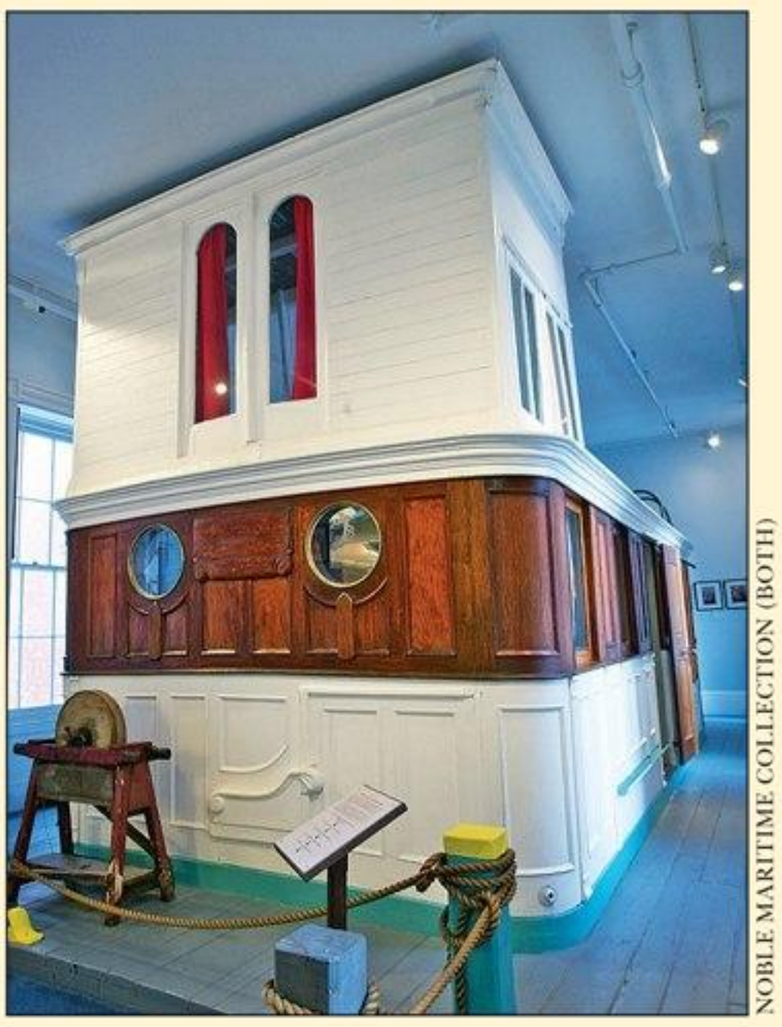
—Jenny Bennett

JOHN A. NOBLE'S FLOATING STUDIO

Born in 1913, the son of the American painter John 'Wichita Bill' Noble, John A. Noble became one of the most noted maritime artists of his era. Between 1928 and 1945, he worked as a seaman on schooners and in marine salvage. In 1928 he saw the Port Johnston coal docks on Staten Island for the first time, and later said that the sight had affected him for life, describing it as "the largest graveyard of wooden sailing vessels in the world." It was there, in 1941, that he began building his floating studio from salvaged pieces of the abandoned vessels that surrounded him. From 1946, Noble worked as a full-time artist producing hundreds of paintings, lithographs, and drawings from this studio. He died in 1983.



Noble's floating studio was featured in National Geographic *magazine in 1954, and today can be seen at the Noble Maritime Collection, part of the Snug Harbor Cultural Center, on Staten Island; www.noblemaritime.org.*



NOBLE MARITIME COLLECTION (BOTH)

SAM DEVLIN'S MILLIE HILL DESIGN

SAM DEVLIN

Millie Hill was designed by Sam Devlin as the answer to this problem: "Have you always wanted a waterfront getaway, but couldn't afford the luxury?" On his website, Sam goes on to say, "Equipped with a wood cook stove and galley, you can catch or bring in the ocean's bounty...have the guys down for a weekend of duck hunting or poker, and a pot of chili on the stove."

The Millie Hill design, built of stitch-and-glue plywood, is 20′ LOA by 8′2″ beam and draws just 12″. She sleeps four with her two settees converting into double berths. There is a head with shower and wet hanging locker. There is also a dry locker near the forward deck area. The galley has full standing headroom, while in the settee area there's sitting headroom. Because her beam is under 8′6″, Millie Hill can be trailered without permit in most states.

In a later version, launched in 2008 and shown here, Sam increased the draft and created a dedicated space for one bed. This later version has an aft deck and is more mobile afloat than her predecessor, traveling at an estimated 5 knots with a 10-hp high-thrust outboard motor. *For details, visit www.devlinboat.com.*

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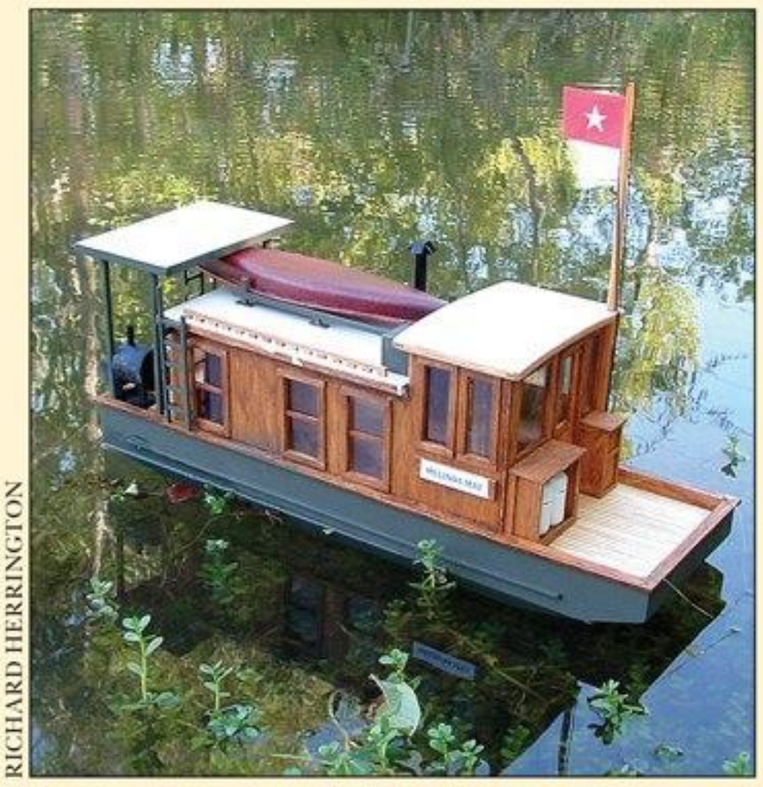


RICHARD HERRINGTON

RICHARD HERRINGTON'S MELINDA MAY

Inspired by a houseboat featured in a Bruce Willis movie, Richard Herrington began dreaming of his own houseboat, and set about designing and building a ¾″-to-the-foot scale model.

"I made many changes to the design as time went by [but I'm now looking] forward to starting construction of the full-size houseboat. Living on this boat six months out of every year, traveling to some place different each spring and summer, is going to be a unique experience. The first trip I expect to make is to Alaska. The following year...the New England coast. After that, maybe Oregon or Washington State. Each winter, before the first snowfall, I will return to spend the winter in Texas, at my cabin in the country."

At full size, MELINDA MAY, as the boat will be called, will be 27′ LOA by 8′ beam. She will carry two 40-lb propane tanks to fuel a cookstove inside and a fish cooker on the aft deck, where there will also be an ice chest. With a 25-hp outboard motor, MELINDA MAY should be able to travel at about 7 to 10 knots.

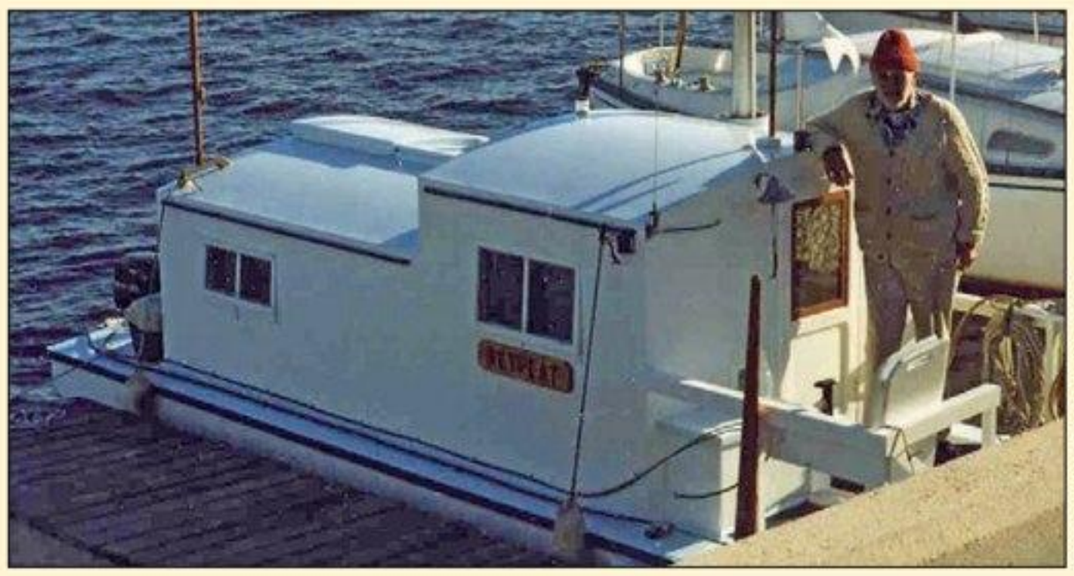
WILLIAM ATKIN'S RETREAT

William Atkin designed many houseboats in his day. Some are large and sophisticated, like the 50′ steel, tunnel-sterned, motor houseboat HUCKLEBERRY FINN, while others are small and simple like Retreat.

Designed in the 1940s, Retreat was described by Atkin as a "miniature floating castle." She was to be of light construction, so as to "ease the burden if and when the boat has to be moved overland by truck or trailer." Atkin even suggested fixing "a pair of automobile wheels each side at the middle point of the overall length, making a trailer that at the same time would be a houseboat."

Retreat is 18′ LOA with a beam of 7′ and a draft of approximately 5″. Headroom is 6′ in the main cabin, 4′10″ in the sleeping cabin. The original boat was designed to a have a coal-burning stove, sink, and icebox on one side of the main cabin, while opposite these were an upholstered seat, dropleaf table, shelves, and lockers. The sleeping cabin was fitted with a single berth, chest of drawers, lockers (including a hanging locker), and head.

In the 1990s Henry Spruks of Florida wrote of his own experiences with his Retreat: " ...she was built in



ATKINBOATPLANS.COM

1985 by David Scarborough of Rock Hall Boats: cedar-planked, fiberglassed to the waterline, canvas-covered plywood deck, plywood house, powered by a 9.9-hp outboard. I had her built as a weekend retreat, but before completion, I had a stroke. When I recovered enough to live alone, I moved to the St. Johns River in Florida and have lived aboard since 1987. (Beats living in a nursing home.)"

For more on Retreat and other houseboats by William and John Atkin, visit www.atkinboatplans.com.

CHRIS CARR

CHRIS CARR'S DARWIN

George Buehler designed the 25′ houseboat RIVER WALKER for use on a wide but shallow river in Cincinnati. He described the design as a "cheap plywood motorhome of the water. It has a pilothouse with good visibility and a 3′ wood-spoke wheel like a good riverboat must have." She had plenty of headroom and could be cheaply built of sheet plywood over fir or yellow pine frames.

It was on this design that Chris Carr based his own boat, DARWIN, although he increased the length to 28′and reduced the beam to 10′6″. Her hull is plywood sheathed with 6-oz fiberglass, over southern yellow pine frames. She was, says Carr, "built almost entirely of materials from the local lumberyards, except the trim, windows, doors, flooring, and swim platform, which are Brazilian walnut salvaged from a friend's deck." She is powered by a 25-hp outboard, giving a top speed of about 4 knots. Chris plans to live onboard from May through October. DARWIN will be used on the Kalamazoo River and Lake Michigan.

For more information, visit www.georgebuehler.com.

BUILDING THE 12′ PEAPOD
PART 3

Text, photographs, and drawings
by Arch Davis

In the previous issue, Arch Davis showed us how to plank the hull and fit the breasthooks in this pretty, double-ended daysailer-rowboat. On the following pages, he completes the project. —*Eds.*

SEAT BEAMS—The seat beams measure ¾″ × 2⅞″, and their locations are shown in Figure 1. They'll be fitted so that each of their top edges is flush with the tops of the seat risers. To achieve this fit, start by cutting a beam square to the length of its top, and resting it in position on the seat risers. Scribe underneath the beam, and use your adjustable bevel (as you see me doing in Photos 1 and 2) to mark the compound angles at the ends of the beam. Cut the ends to their finished bevels, and lay out the ⅝″ × 1″ notches to fit around the seat risers.

Make plywood saddles to support the ends of each beam, as shown in Photo 3. There is no need for any fastenings, but you can hold the saddles with staples while the glue cures. If you have decided on a sailing version with a centerboard trunk, support the beams for the center thwart with similar saddles on the outboard faces of the trunk. Fit the two fore-and-aft beams that support the side seats, notching their ends into the athwartships beams and gluing them in place (Photo 4).

SHEERSTRAKE MOLDINGS—Fit the sheerstrake moldings next. (I described how to make them in Part 1.) Tack one to the bottom edge of the sheerstrake, with a 4D nail driven amidships, making sure that the molding overlaps the stems at both ends. Bend one end in to the bow, and mark and cut it to fit against the side of the stem, in much the same way as you marked and cut the sheer clamps to fit against the stem. This time, however, the piece is so small that your adjustable bevel won't work, so you can mark the angles freehand, instead. You may be surprised at how good a fit you can get by doing it this way.

Cut both ends of both moldings this way, then remove them, and fasten them permanently in place with glue and 18-gauge ¾″ brass brads, keeping the bottoms of the moldings flush with the lower edges of the sheerstrakes. A piece of wood held against the

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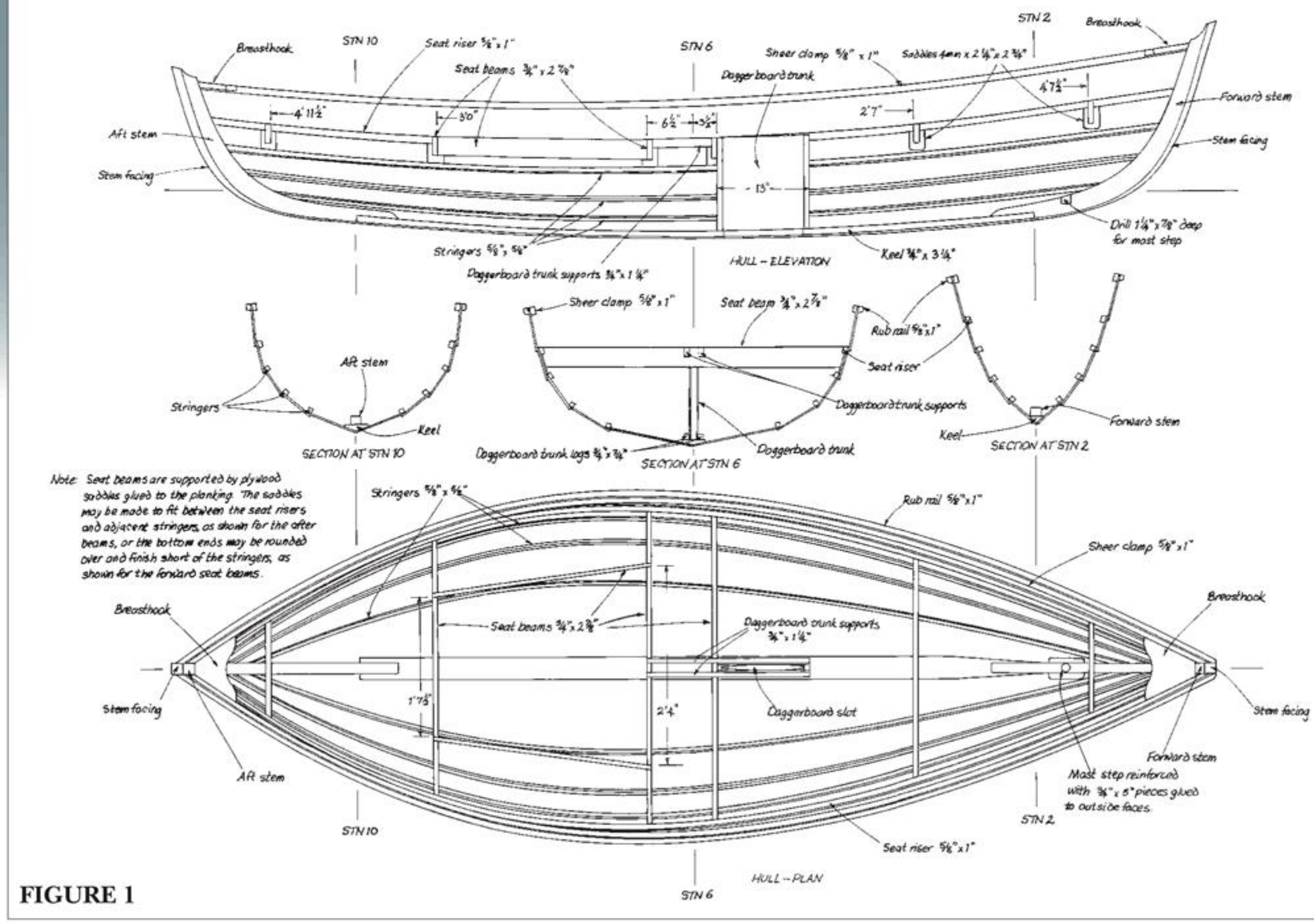

Breasthook
STN 10
Seat riser ⅝" x 1"
STN 6
Seat beams ¾" x 2⅞"
Sheer clamp ⅝" x 1"
Dagger board trunk
Sabbles 4mm x 2¼" x 2⅞"
STN 2
Breasthook
4'7½"
Forward stem
Aft stem
Stem facing
4'11½"
3'0"
6½"
3½"
2'7"
13"
Stem facing
Drill 1¼" x ⅞" deep for mast step
Stringers ⅝" x ⅝"
Dagger board trunk supports ¾" x 1¼"
HULL – ELEVATION
Keel ¾" x 3¼"
Sheer clamp ⅝" x 1"
Seat beam ¾" x 2⅞"
Rub rail ⅝" x 1"
Seat riser
Dagger board trunk supports
Aft stem
Stringers
Keel
SECTION AT STN 10
Dagger board trunk logs ¾" x ¾"
SECTION AT STN 6
Dagger board trunk
Keel
Forward stem
SECTION AT STN 2
Note: Seat beams are supported by plywood sabbles glued to the planking. The sabbles may be made to fit between the seat risers and adjacent stringers, as shown for the after beams, or the bottom ends may be rounded over and finish short of the stringers, as shown for the forward seat beams.
Stringers ⅝" x ⅝"
Rub rail ⅝" x 1"
Sheer clamp ⅝" x 1"
Breasthook
Seat beams ¾" x 2⅞"
Dagger board trunk supports ¾" x 1¼"
Stem facing
1'7½"
2'4"
Dagger board slot
Stem facing
Aft stem
Forward stem
Mast step reinforced with ¾" x 5" pieces glued to outside faces.
STN 10
STN 2
Seat riser ⅝" x 1"
HULL – PLAN
STN 6

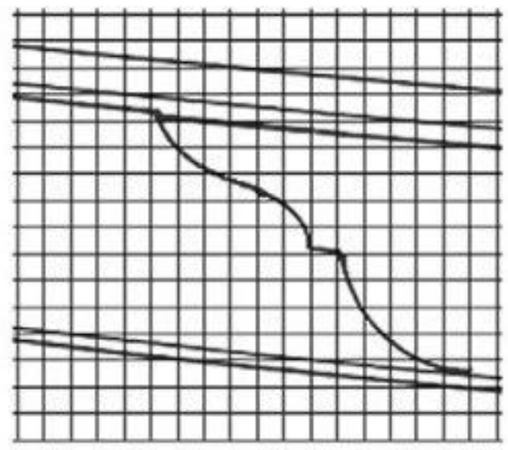
FIGURE 1

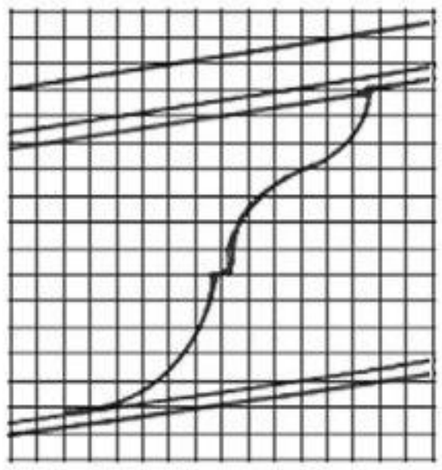
sheerstrakes' edge, with the molding pressed down on it, correctly locates the molding.

You need a helper for this job, as the sides of the boat are too springy to nail into. The second person holds a dolly against the seat riser on the inside. Any hard, solid weight will do for a dolly. I use an old stub axle, but you could use, say, the back of an axe head or a heavy hammer. Your helper does not need to push the dolly hard against the seat riser; the dolly must only be in contact, so its inertia allows the brad to penetrate the wood. Set the brads below the surface of the moldings with a nail punch (Photo 5), and fill over their heads with thickened epoxy.

RUBRAILS AND BADGES—Secure a rubrail to the hull with a C-clamp placed amidships, and bend it in toward the bow, adding a couple of clamps as you go. Marking and cutting the ends to fit against the sides of the stem follows much the same procedure as with the sheer clamps and the lower moldings, but you'd better use your adjustable bevel this time. The ends of the rubrails (aka outwales) will project a little beyond the stem, so you will have to trim these back later. Fasten the ends of the rubrails with two No. 8×1½″ screws driven through them and on into the sheer clamps and breasthooks. Dry-fit both rubrails, scribe their locations on the boat by marking along their lower edges, then remove them and set them aside.

The badges—the sheer details at the bow and stern—can be made now. Cut four pieces of 4mm plywood, two at 6″×20″ for the bow, and two at 5″×18″ for the stern. With your bevel gauge, measure the angle





Aft

Forward

Badge end profiles: 1/2" squares

FIGURE 2

between the sheerstrake molding and the rake of the stem (Photo 6). Cut one of the pieces to this angle, measure the angle between the sheerstrake and the side of the stem (Photo 7), and plane a matching bevel along the previously cut edge (Photo 8). When that fit is good, mark the top edge of the badge to fit against the bottom edge of the rubrail (Photo 9), planing a bevel on this edge to match the 20-degree bevel on the rubrail. Mark and cut the after end of the badge to the profiles shown in Figure 2. Make all four badges, and set them aside.

Glue the rubrails in place. If you have plenty of clamps, you can use them to hold the rubrails while the glue sets (Photo 10); otherwise you can use No. 8 × 1¼" screws.

Finally, glue the badges to the sheerstrakes. You can drive three or four brass brads through the ends of the badges and into the stems; clamps with suitable pads will hold their other ends while the glue sets (Photos 11 and 12).

FLOORBOARDS—Remove the molds at station Nos. 4 and 8 to make way for the floorboards. Shown in Figure 3, they are simply glued-in pieces of 4mm plywood that reinforce the garboards where you will stand in the boat. Make them 22" long, cut to the shapes shown, with 1" clearance between their edges and the keel and stringer. Trace their locations on the garboards, centering them between the thwart and forward and after seats.

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Now you are ready to glue in the floorboards. The question is how to hold them down while the glue sets. The planking is too thin for screws to work, at least without drilling unnecessary holes. You could use weights, but this isn't as easy as it sounds, or you could employ a system of props and wedges braced off the seat beams, which is tricky and cumbersome. A simpler method is to use contact cement.

Mark out a strip down the center of each floorboard, 2″ wide and stopping 2″ short of each end. Mark matching strips on the garboards. Spread contact cement along each marked strip, both on the floorboards and the garboards. On the rest of both surfaces, spread epoxy, thickened sufficiently to make a sloppy glue that will spread readily in the joint under light pressure. Now, the trick with contact cement is to be sure that it is properly dry before putting the two surfaces together. If it isn't, the pieces won't stick. Give it plenty of time (a good 20 minutes, at least)—the epoxy won't have started to gel yet. When it's ready, set the floorboard's inboard edge on the line you marked on the garboard, and carefully lower the rest of the piece into place (Photo 13). You have only one chance to get it right, because when it touches, the contact cement

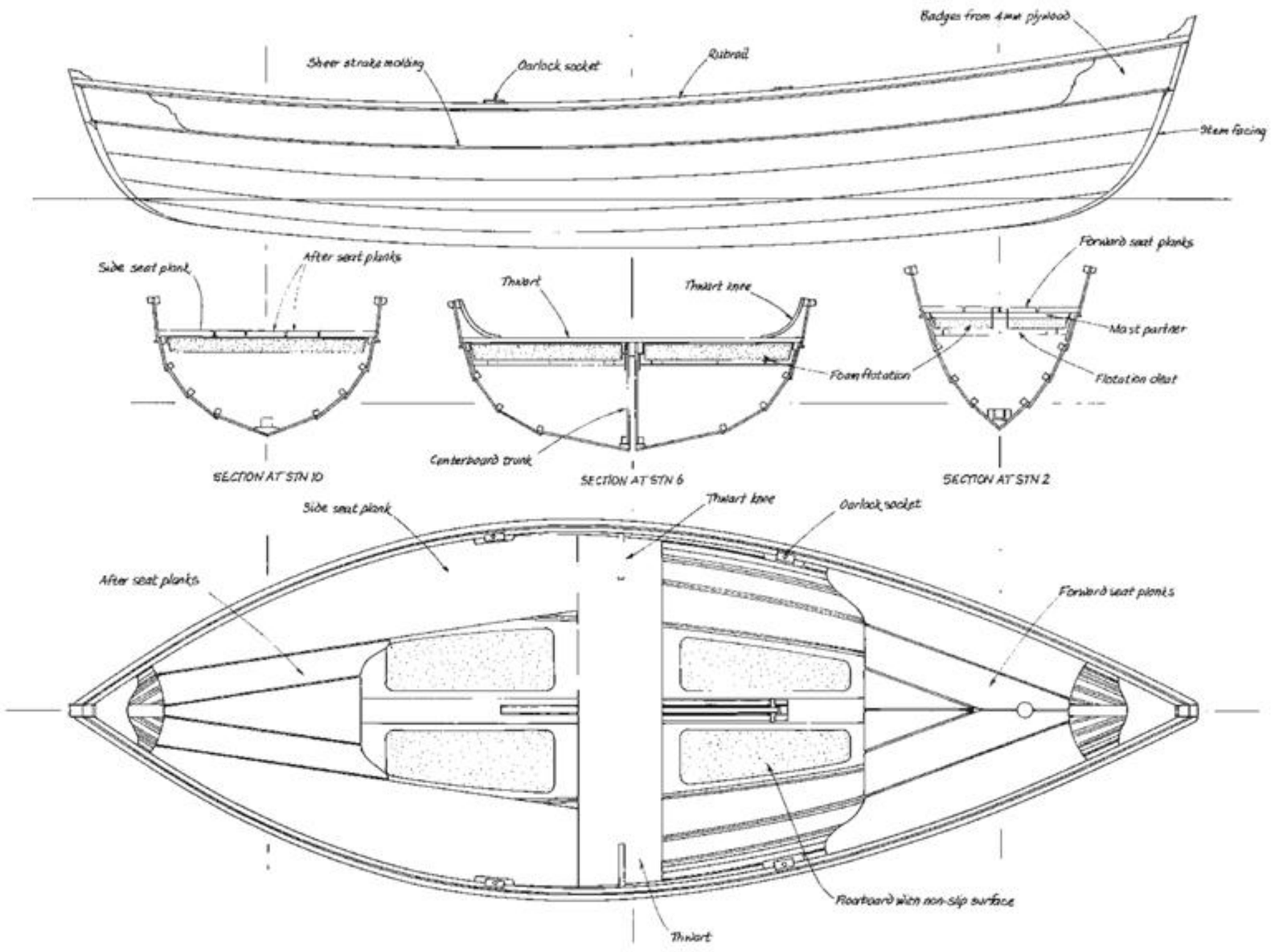
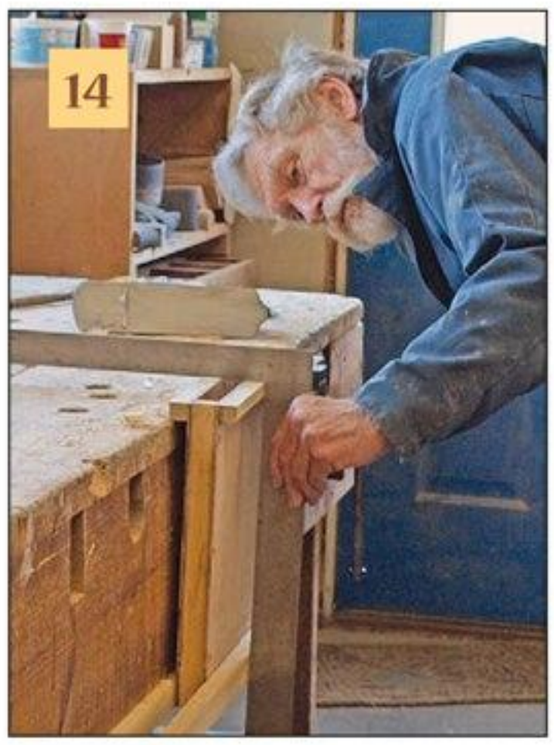
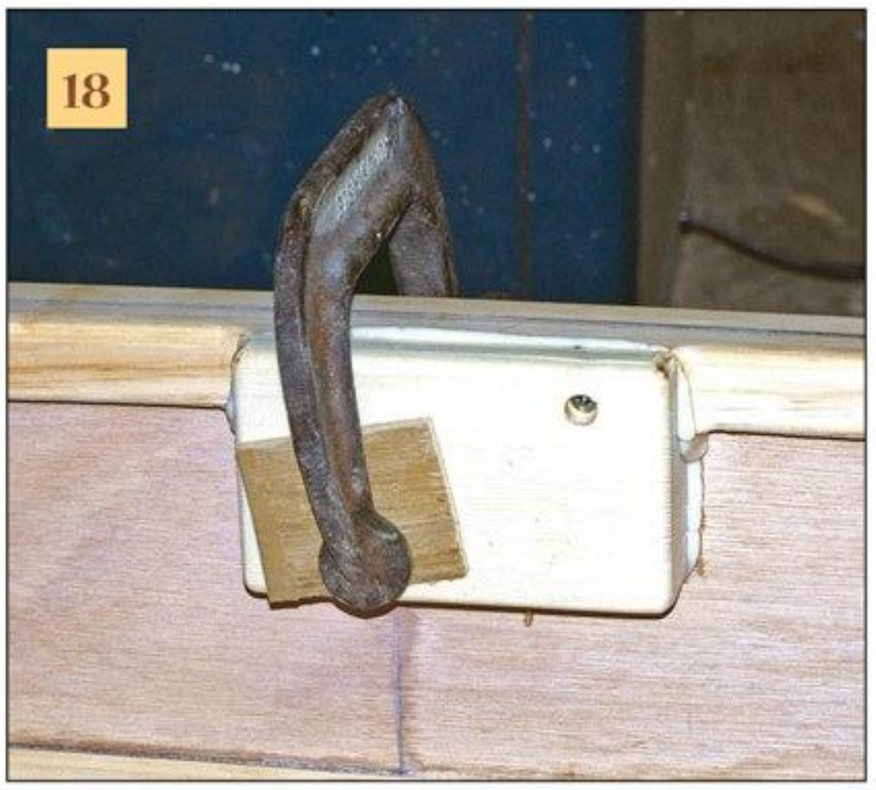


FIGURE 3





will instantly grab and you won't be able to move the piece. It's not a difficult job, but care is required. When you have a floorboard in place, press it down firmly all along its center. Some of the epoxy should squeeze out around the edges; clean it up, and you're done with that floorboard and can follow the same steps in the remaining pieces.

With the seat beams and rubrails now bracing the hull, you can now remove the rest of the station molds.

DAGGERBOARD TRUNK—Figure 1 shows the construction of the daggerboard trunk. Begin building the trunk by cutting its sides from two pieces of 4mm plywood, 13″ wide by 14″ high. Scribe their bottom edges to fit the curve of the keel. Then, with one of the trunk sides in place, lay a straightedge across the two thwart beams aft of the trunk, and scribe along it to mark the top edges of the trunk sides and cut the sides to their finished height. Glue and screw the daggerboard trunk logs (bottom) and daggerboard trunk supports (top) along the trunk's horizontal edges, remembering to make one side for port and one for starboard. The trunk sides are separated by 15⁄16″ × 3⁄4″ internal framing along the forward and after edges. Glue and screw these to one of the sides, orienting them so that the gap between the sides will be 15⁄16″ to allow clearance for the 3⁄4″-thick daggerboard, and seal the interior surfaces thoroughly with at least two coats of epoxy resin. You won't be able to reach these areas for maintenance later on, so do a good job now! Assemble the two sides with screws and glue, using a framing square to make sure that they are correctly aligned top and bottom (Photo 14).

With the boat level in its cradle, find the centerline of the keel, and use a level to project this upward onto the forward thwart beam (Photo 15). Set the daggerboard trunk supports on the seat beams with the trunk centered on the centerline mark, mark their locations on the beams (Photo 16), and notch the beams (Photo 17). Set the trunk in the hull again and confirm that the top edges of the supports are flush with the tops of the beams, and that the bottom of the trunk fits against the keel. Make any adjustments that are necessary to get a good joint between trunk and keel. If the bottom of the trunk is not in contact with the keel, you can deepen the notches in the beams, and glue shims to the tops of the trunk supports to bring them up to the level of the beams. If the bottom of the trunk fits well against the keel, but the supports are above the beams, simply pare down the supports, rather than planing the bottom of the trunk.

Make sure the trunk is centered on the keel, and drill pilot holes for three No. 8 × 1 1⁄4″ screws through the bedlogs and into the keel (don't run your countersink too deep!), and hold the trunk there temporarily with a couple of screws on each side. Mark the four corners of the inside of the trunk onto the keel, as described in Part 2 for the centerboard trunk. Remove

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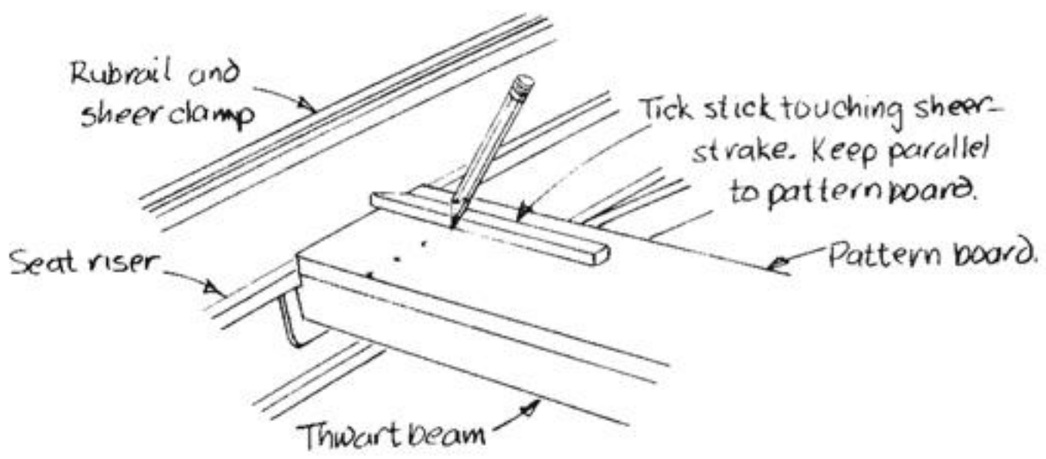
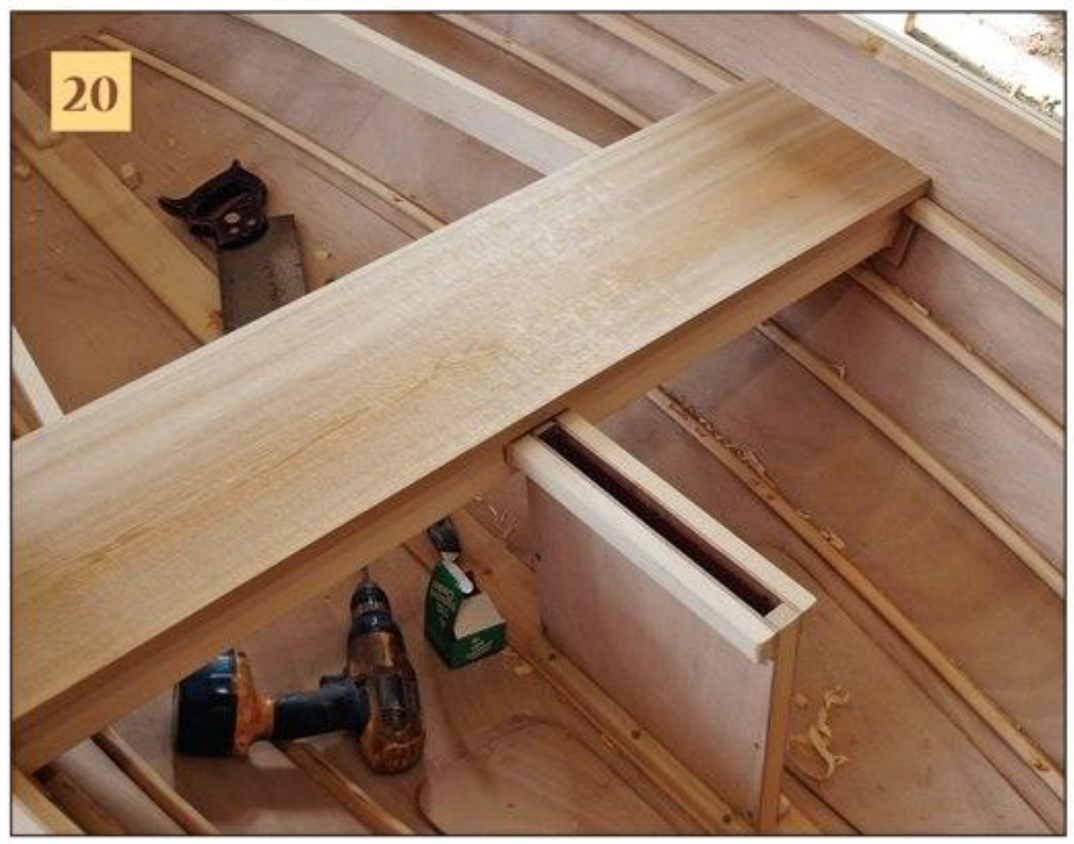


FIGURE 4



the trunk, lay out the shape of the slot for the daggerboard, making it 1/16″ wider all around than the foil shape of the daggerboard, and cut the slot with a jigsaw. Make the daggerboard as shown in Figure 6, with a handle and ¾″×¾″ stops at the top, and plane the lower part, where it will project from the hull, to the same (but smaller) foil section as the slot. Lift the hull onto a pair of sawhorses, and try the board in the trunk, to make sure that it fits.

Now refit the trunk, this time with glue in all joints, and with all of the screws. Use plenty of glue for this job.

OARLOCK CHOCKS—The oarlock chocks measure 5″ long, by 3″ deep, by 1¼″ thick. Cut a rabbet in the top of each chock to fit it around the sheer clamp. To locate the chocks, put marks on the sheer clamps 1′5½″ aft of station No. 6, and 1′8″ forward of station No. 6. Center the chocks between these marks. Glue them in place, fastening them as well with No. 8×1½″ screws into the sheer clamps, and clamping them to the sheerstrakes as necessary (Photo 18).

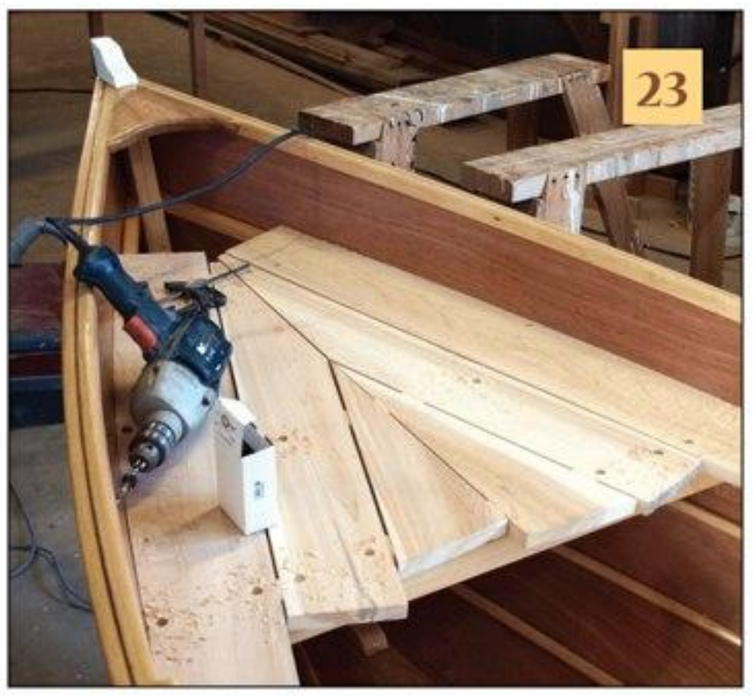
EPOXY SEALING—Turn the hull upside down again, and lay a 4″-wide strip of Kevlar tape in epoxy resin as a rubbing strip along the centerline. If you prefer, you can fit an external keel which should measure ¾″ wide by ¾″ or 1″ deep, and it's best made from hardwood. Plane a ¾″ flat for this along the centerline of the hull, and attach the keel with glue and No. 8×¾″ screws between about station Nos. 2 and 10. It will have to stop at each end of the centerboard or daggerboard slot, of course. Taper the ends.

Seal the whole of the exterior of the hull with at least two coats of epoxy resin (Photo 19). You can also paint the exterior now, if you like.

THWART AND AFTER SEAT—To save weight, I made the center thwart and seats from white cedar, but any light softwood is fine; hardwoods will only add weight.

Make the thwart first. It is 11″ wide and overlaps the thwart beams ½″ forward and aft, and fits between the sheerstrakes. One way to mark its ends is to use a pattern of the same width and two or three inches shorter than the thwart. Lay it in the thwart's position on the thwart beams, and use a tick stick to lay out the shapes of the ends of the thwart, as shown in Figure 4A. Now place the pattern on the thwart stock and transfer the tick stick marks to the stock as in Figure 4B. This gives both the length and the shape of the ends of the thwart. Pick up the angle between the thwart beams and the sheerstrake with your adjustable bevel, set your jigsaw or bandsaw to this angle, and cut the ends of the thwart. It should fit tightly against the sheerstrakes when in contact with the beams (Photo 20). If necessary, you can make any slight adjustments with your plane.

Mark the location of the after edge of the thwart on the seat risers and sheerstrakes, and take it out and set it aside for the moment.



The side seat planks and the outboard planks of the forward seat also need to fit against the sheerstrakes, but this time you can mark the shapes directly onto the planks. For the first side seat, start with an 11″-wide board. A 1×12 from the lumberyard will actually be about 11¼″ wide and this is all to the good, as a little extra width gives you something to play with. If you think your board isn't quite wide enough, you can glue an extra piece to its outboard edge (this glued-on piece doesn't need to run full length; it just has to be long enough to compensate for what's missing). Lay the board on the seat beams, so that its after end touches the sheerstrake at the point where it will end, and with the inboard edge parallel to the side seat beam. It's a good idea to clamp it so it doesn't move as you mark it.

Measure the greatest distance between the outboard edge of the board and the sheerstrake. Mark a tick stick at this distance, and use it to make a series of marks along the board, as shown in Photo 21, using a square to keep the tick stick perpendicular to the edge of the board. Scribe along the after face of the thwart beam on the underside of the board. Measure the angle between the top of the board and the sheerstrake with your adjustable bevel. Take the board out, join the marks, set your saw to the measured angle, and cut the edge to fit against the sheerstrake. Move the line on the underside of the board ½″ farther aft, and cut to the line. Try fitting the board and the thwart in place. The board should fit against the sheerstrake with its forward end butting neatly against the after edge of the thwart. Make any adjustments with your plane to achieve this.

The inboard edge of the board should also be parallel to the side-seat beam, overlapping it by ½″. If your board started out a little over-width, you will be able to trim the inboard edge to suit, if necessary.

Make the seat for the other side, and fasten the thwart and the two seats in position with No. 8×1¼″ screws into the beams and seat risers (five screws evenly spaced along each edge is enough).

The adjacent planks for the after seat should be 3¾″ wide. Make them a little over-length to allow for the shape of their forward ends, and screw them into place, using ⅛″-thick spacer blocks to keep them a uniform distance from the side seats. Make sure the distance between them is at least 1½″ at their after ends, to allow for the aft seat's center plank.

Getting the shape of the center plank is easy. Just lay a board in place, scribe along the adjacent planks underneath, and cut, allowing for the ⅛″ gap each side. Screw this center plank in place, again using spacer blocks. Now mark the after ends of all the planks to the curve shown in Figure 3 and lay out their forward ends as well. Round over the corners to a ⅛″ radius, and try all the pieces in place. They should look like Photo 22, although you will notice that I have yet to cut the after ends of the side seats here. It's not really apparent in the photograph, but you will notice when you do it that although the side seat planks have a slight curvature that follows the sheer of the seat riser, the other three pieces don't, so that the top surfaces are not quite flush. There's no need to worry about this; with the gaps between the planks, and the edges rounded over, it's not at all noticeable.

FORWARD SEAT—Making the forward seats follows much the same procedure, but if you're to have a sailing rig, first make the mast partner to fit between the seat risers at the position shown in Figure 5. Locate it fore-and-aft so that its center is 13⁄16″ aft of the center of the maststep to give the mast its correct rake. Now is a good time to drill the maststep hole in the stem as detailed in Figure 1. Set the mast partner aside for now.

The layout of the forward seat planks is shown in Figure 3. The outboard planks should be 3½″ apart at the forward seat beam, and 1′10¼″ apart at the after seat beam. Mark the beams at these locations, then lay a 5½″-wide board on them with its inboard edge the

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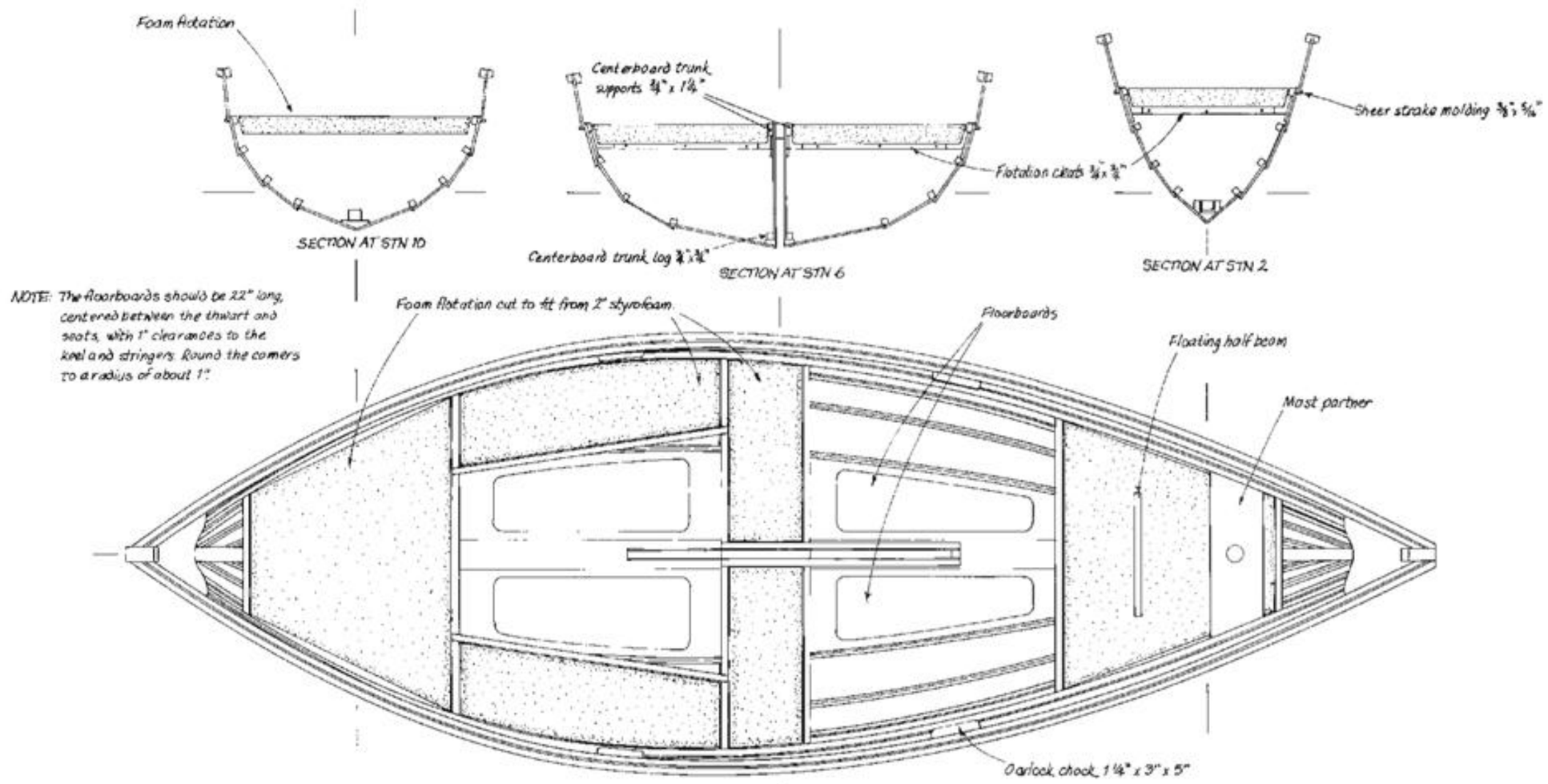

Foam flotation
SECTION AT STN 10
Centerboard trunk supports ¾" x 1¼"
Centerboard trunk log ¾"x¾"
SECTION AT STN 6
Flotation cleats ¾" x ¾"
Sheer strake molding ⅜" x 5/16"
SECTION AT STN 2
NOTE: The floorboards should be 22" long, centered between the thwart and seats, with 1" clearances to the keel and stringers. Round the corners to a radius of about 1".
Foam flotation cut to fit from 2" styrofoam
Floorboards
Floating half beam
Mast partner
Oarlock chock 1¼" x 3" x 5"

FIGURE 5

same distance from the marks at both ends. Use a tick stick to lay out the outboard edge as you did for the side seats aft. As before, measure the angle between the planks and the sheerstrakes, and cut along the line to this angle. Install the planks with No. 8×1¼" screws into the seat beams, leaving the ends over-length for now.

The next pair of planks meet on the centerline as shown in Figure 3. Lay a 5¼"-wide board next to one of the outboard planks, with spacers to establish an even ⅛" gap. Lay a straightedge over the plank from the center of the after beam to the center of the stem. Scribe a line on the top of the plank, and cut to the line. Fit the plank with screws, and mark the position of the center of the mast on the edge of the plank by holding a level plumb on the maststep, and making allowance for the mast rake of ¾" in 1'. Cut the matching plank for the other side, and make sure that the two planks fit correctly with an even ⅛" gap between them at the centerline and along their outboard edges. Secure them with No. 8×1¼" screws into the beams. Fit the mast partner with No. 8×1¼" screws through the seat planks.

The narrow forward ends of the last two planks are supported by the floating half beam shown on Figure 5. Install this next, make the two planks, and secure them with screws. Photo 23 shows the forward seat at this stage.

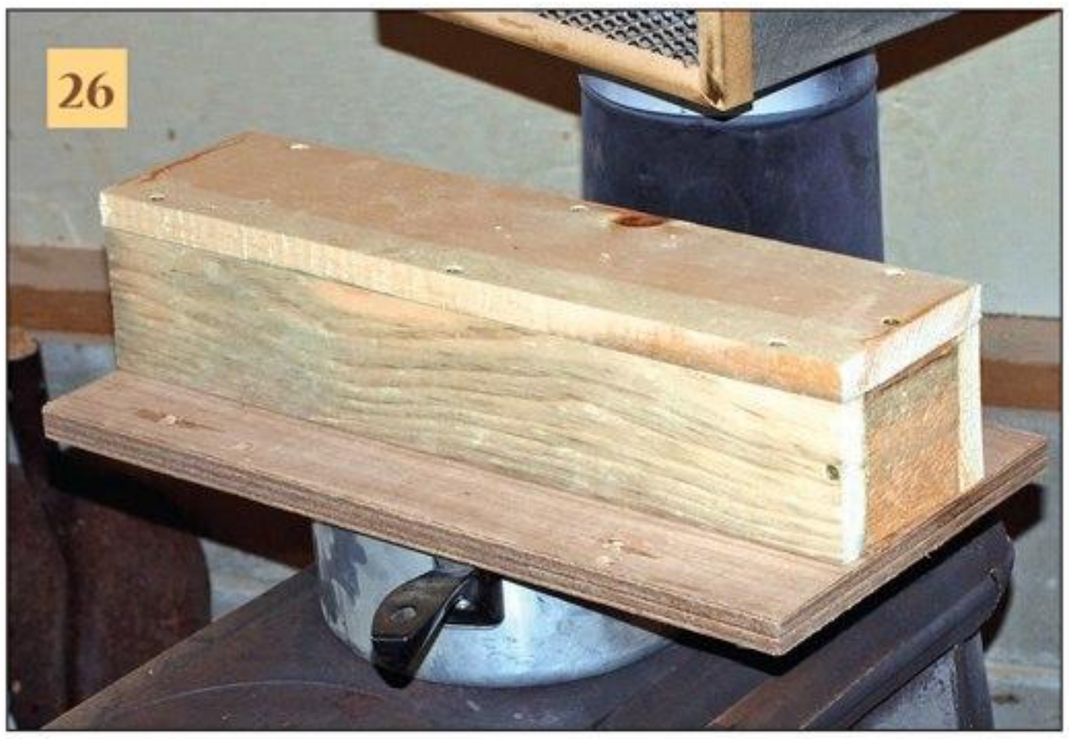
Now you can cut the hole for the mast in the seat planks and the mast partner with a holesaw. Drive the holesaw's pilot bit through the gap between the planks at the position you marked earlier for the center of the mast, and cut with the saw through the seat planks and into the mast partner. When the pilot bit comes through the bottom of the mast partner, stop, remove the partner, turn it upside down, and finish the hole from the bottom.

Lay out the shapes of both ends of the forward seat planks, then take them out. (Photo 24 shows some of the planks removed, revealing the mast partner and the floating half beam.) Cut their ends, round over their corners, and set them aside for now.

FOAM FLOTATION—The flotation under the seats is made from 2"-thick Styrofoam supported by ¾"×¾" cleats along the bottom edges of the seat beams as shown in the cross-sections in Figure 5. Make the cleats, and screw them to the beams with No. 8×1¼" screws.

Cut the Styrofoam to fit (it cuts easily with a handsaw), and try it in place. You can paint the top surfaces with latex paint to match the color of the seats. The block under the forward seat will need a wide groove to accommodate the mast partner and a slot for the floating half beam. You can cut the latter with a jigsaw, and make the former by cutting a series of kerfs across the block with a circular saw, then knocking out the waste between them. Finish the bottom of the groove with a belt sander. You'll also need to cut a hole for the mast, of course. Round over the corners on all the flotation blocks. Photo 25 shows the foam flotation in place, with strategically painted stripes to keep blue foam from showing through the gaps in the seats.

25



EPOXY SEALING, PAINT AND VARNISH—Remove the foam flotation and seal the whole of the interior of the hull, including the seat beams, mast partner, centerboard or daggerboard trunk—all the wood surfaces—with two coats of epoxy resin. You can seal the seat planks at the same time while they are out of the boat. Give the epoxy time to cure completely, sand it, and apply as many coats of paint or varnish to the interior as you think fit. It's a good idea to do this now, before the seats are in, while you have easy access. If you haven't already done so, paint the boat's exterior as well.

Reinstall the flotation, thwarts, and seat planks, this time gluing bungs over the screws. I didn't glue the thwart or seat planks in place because someday they may need to be removed for maintenance, the foam flotation may need to be replaced, or the hull may need refinishing underneath them.

THWART KNEES—The next task—and almost the last one before launching—is rather good fun. It's making the thwart knees, which you can easily steam to shape. (You could laminate them, but steaming is easier.) Ash steams very easily, and oak almost as well. Cut

The 12′ Peapod carries a simple lug rig whose spars are built from common spruce framing lumber; their construction is detailed on page 74. For rowing, a simple cap should be fit over the daggerboard slot to keep water from sloshing into the boat; the cap is a simple piece of wood the size of the top of the trunk, with a perpendicular piece about ¾" thick fastened to its underside, to fit about 6" into the slot.

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a piece ⅝″×2″×12″ and throw it into a bucket of water for a couple of days (if you've been reading ahead, you will already have done this). Make a steambox like the one in Photo 26. It has a hole about 2″ in diameter in the bottom to admit the steam. Set it on a saucepan with a few inches of water in the bottom, and put it on a suitable source of heat, with the knee stock inside. Bring the water to a good boil, and let it steam for a couple of hours. The wood needs to get good and hot, and saturated with the steam. Make a mold to the shape of the knee, and clamp it in your bench vise.

Now you have to work quickly for the next bit. Wear gloves, as the wood's going to be hot! Take it out of the steambox, clamp one end to the mold, and bend it. Then put a clamp on the other end (Photo 27). You will be surprised at how easily it bends. If you get it right, the wood is almost like putty. Set the whole thing aside again for a couple of days to let it dry. When you take the wood off the mold, there should be little or no springback.

Cut the stock down the center to make two knees, cut them to length, round over their corners, sand and screw them to the thwart and sheer clamp. Bung all the screw holes.

VARNISHING THE SEATS—If you haven't already done so, seal the top surfaces of the thwart and seats with epoxy resin, then varnish them. If you have a daggerboard trunk, make a cap to fit over it so that water doesn't splash up and wet your behind when you are rowing. Fit a cleat for a painter on the after side of the stem, and a cleat on the forward seat, just behind the mast, for a boom downhaul, if necessary.

One more thing, and you can take her for a row: Fit an oarlock socket in each oarlock chock. Drill a hole of the correct diameter and depth to accommodate both the socket and the oarlock, then continue the hole with a ¼″ bit right through the chock for drainage. Install the sockets with No. 8 × 1 ¼″ screws.

Figure 6 shows the sail plan, along with mast and spars. For instructions on making the mast and spars, see the following article.

Arch Davis designs and builds boats in Belfast, Maine. You can order plans for his 12' Peapod online at www.archdavisdesigns.com, or by mail at Arch Davis Design, 37 Doak Rd., Belfast, ME 04915; 207–930–9873.

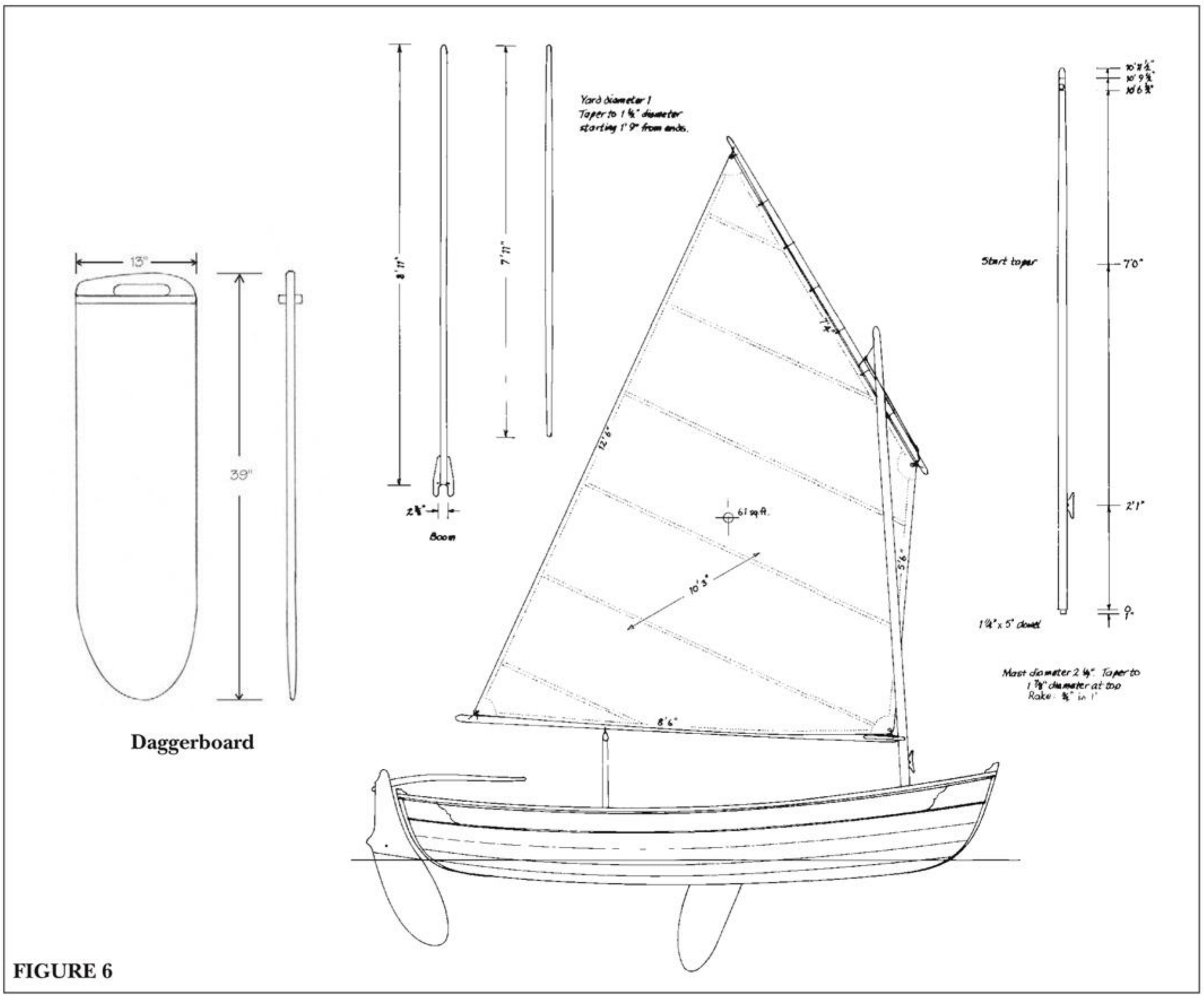

FIGURE 6

A MAST FOR THE 12′ PEAPOD

Simple spars for a small boat

The building of this simple mast begins with a square-sectioned spruce blank. Four passes through the table saw create an untapered, eight-face piece. The eight faces are planed by hand to the mast's designed taper.

by Arch Davis

The traditional wood of choice for masts and spars is Sitka spruce, which is light and strong, but expensive. Alternatives are Douglas-fir and eastern spruce. Douglas-Fir makes a very attractive mast, but it's comparatively heavy. For small boats, I use eastern spruce in the form of run-of-the-mill, kiln-dried framing lumber—which is lighter than fir. Most eastern spruce is useless for sparmaking, being full of knots and other defects, but with some searching, I can usually find an acceptably straight and clear 2×8 or 2×10 at my local lumberyard.

These rough spruce boards are unimpressive when I bring them into my shop, but the wood has an attractive, lustrous pale-yellow color when planed and finished. To make the mast for the 12′ Peapod on the previous pages, I start by ripping two pieces to 2¾″×1½″, which is ½″ wider than the diameter of the mast to allow for the fact that the pieces are never perfectly straight. I glue them together, concave faces in, to get as straight a piece as possible measuring 3″ by 2¾″ in cross-section. The extra size allows for further straightening while I rip the piece again to make a blank whose cross section is 2¼″×2¼″. At one end, I find the center and from it draw a 2¼″ diameter circle, to which I draw tangents at 45° to the faces of the piece. At the other (smaller) end I draw a 1⅞″ diameter circle with similar tangents.

Next I set the arbor on my table saw to 45 degrees, with the fence to the lefthand side of the blade as shown in the photo, with a wooden extension fastened to it. I clamp feather boards to the extension and table and rip four times to reduce the spar to an octagonal cross section.

Since the mast tapers to 1⅞″ diameter at the top, I take it to my workbench, clamp it in the vise, and plane the eight faces to taper to the smaller circle, then I plane each of the eight resulting corners to arrive at a 16-sided cross section. This leaves 16 corners; I draw a reference line around the mast (it's easy to get lost at this point), and take two or three full-length shavings off each corner to arrive at a 32-sided cross section.

From this point, I use sandpaper. I clamp the mast between two workbenches and work it down to round with a strip of 60-grit sandpaper (cloth-backed, floor sanding paper works best) to which I have attached handles to pull it back and forth. This gives an even, round section—perhaps not as precise as you would get with a lathe, but pretty close. I finish by sanding lengthwise along the spar with 80-grit and then 120-grit sandpaper.

To complete the mast, I cut a mortise at the top for the halyard, attach a halyard cleat, insert a 1¼″ dowel in the heel to fit the mast step, and apply five coats of varnish.

Making the boom and yard follows much the same procedure, except that they can be made from one piece each of 1½″ in diameter stock. The yard tapers to 1¼″ diameter at the ends; the boom is finished with jaws to fit around the mast.

To set up the Peapod's simple lug rig, seize the tack and clew of the sail to the boom, lace the head to the yard, attach the halyard and sheet, hoist the sail, and check that it sets nicely. Hang the rudder, and you're good to go. Good sailing!

The eight-sided tapered blank is planed to 16 sides, then 32, and then aggressively hand-sanded to achieve a round spar.

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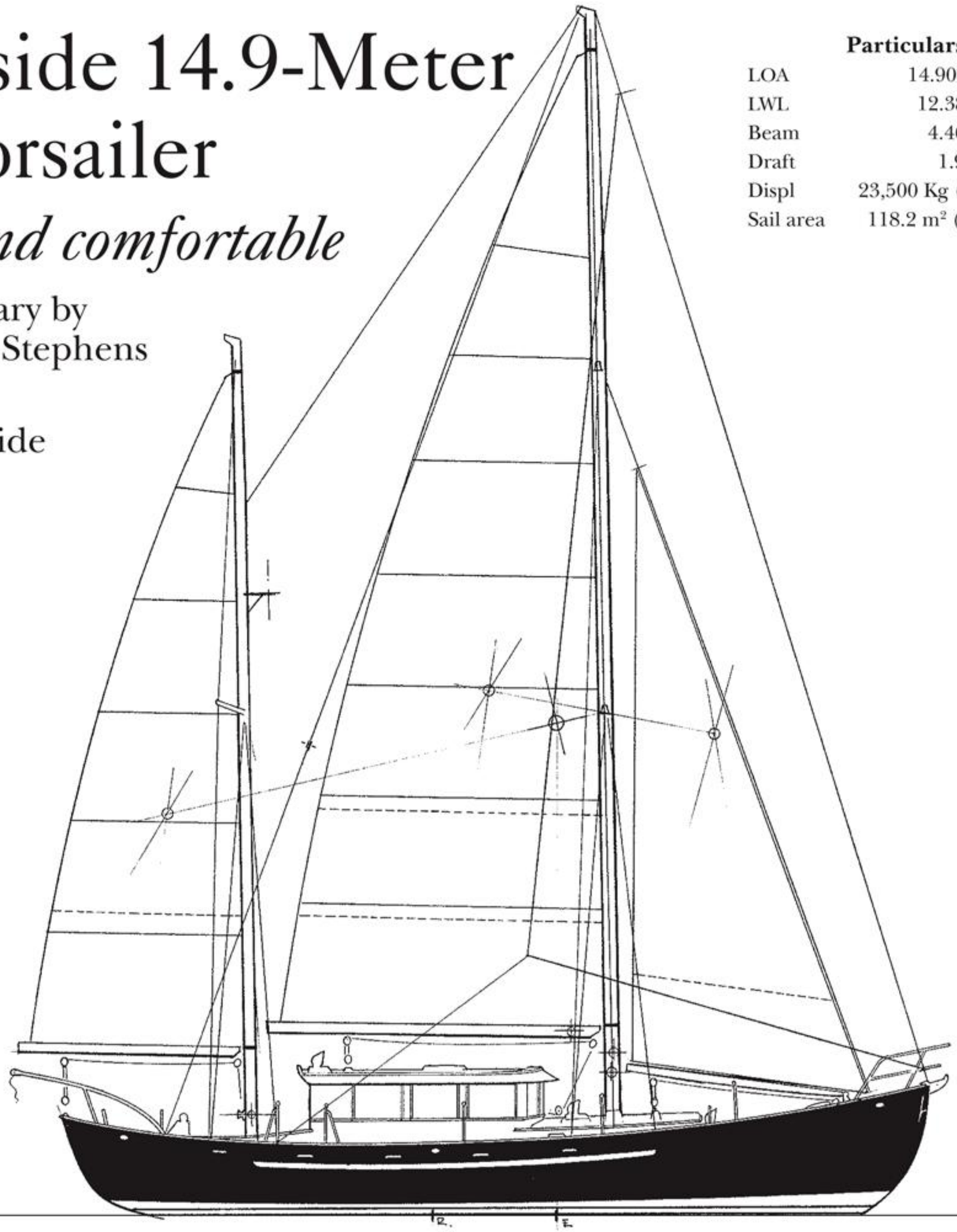
Gartside 14.9-Meter Motorsailer

Able and comfortable

Commentary by
Robert W. Stephens

Design by
Paul Gartside



Particulars

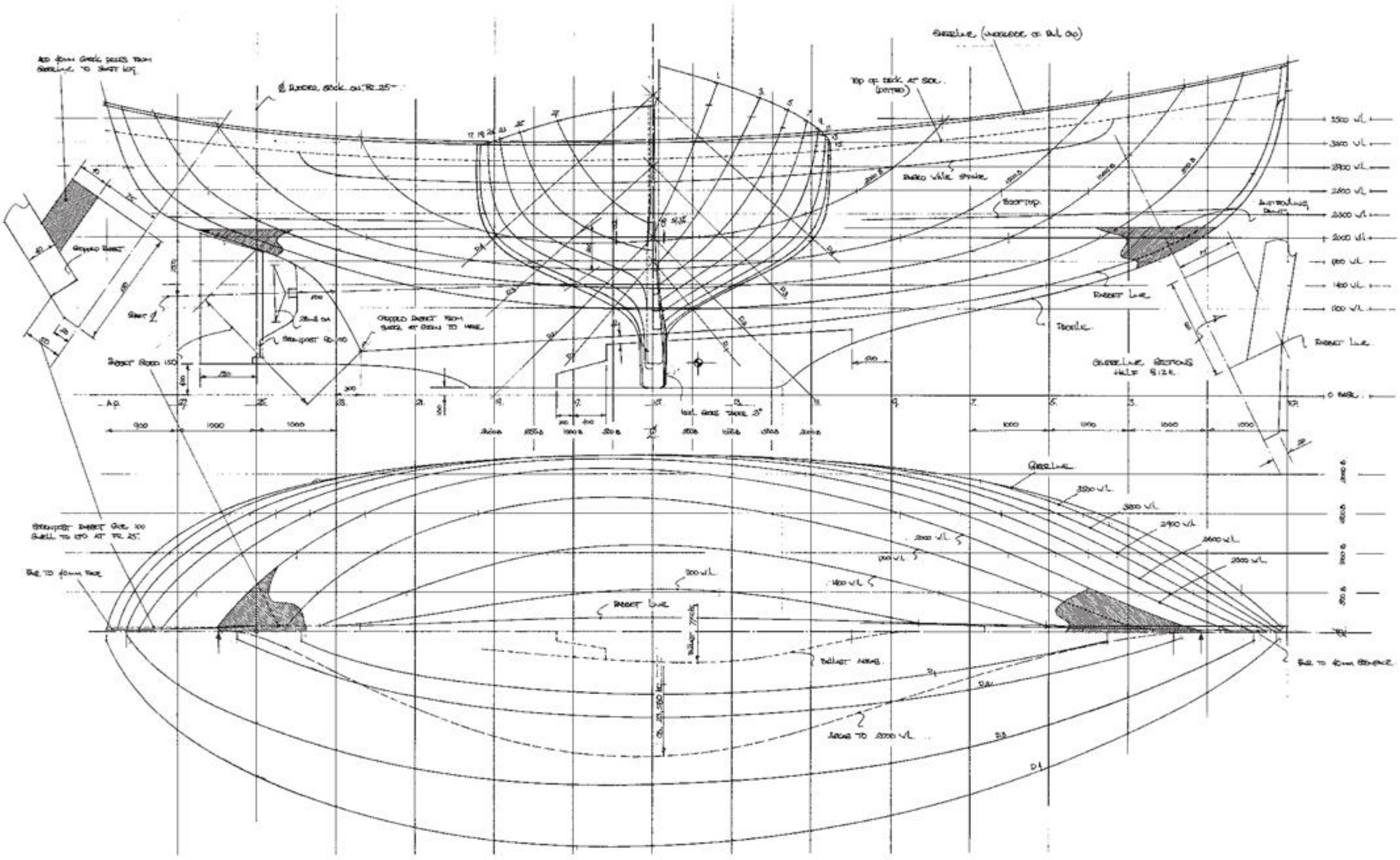
LOA	14.90 m (48′11″)
LWL	12.38 m (40′7″)
Beam	4.46 m (14′8″)
Draft	1.90 m (6′3″)
Displ	23,500 Kg (51,800 lbs)
Sail area	118.2 m² (1,272 sq ft)

Why have motorsailers acquired such a bad name? During my formative years, "real" yachtsmen looked down their noses at motorsailers, considering them neither fish nor fowl, ill-equipped to do anything very well. We blustered about how they didn't have enough sail area to drag their huge powerboat propellers through the water, or enough engine power to push their ungainly rigging through the air. They rattled, smoked and smelled underway, and their bulky and boxy superstructures blocked visibility, created unacceptable windage, and—most important—offended our finely tuned yachtsmen's eye for beauty.

As I look back on our attitudes, I think our strongly averred aversion was a subconscious mechanism to keep us from questioning the basic tenets of our carefully constructed world of yachting beliefs. Boating was supposed to be uncomfortable—how could we be proving how rugged we were, if we weren't either shivering in a wet, uncomfortable cockpit as we slammed our way to windward, or bashing our kidneys out in a deep-V powerboat at something approaching highway speeds, the scream of a pair of high-speed diesels emanating through the floorboards? In retrospect, the concept of a snug, sensible, seaworthy craft that can take us anywhere at reasonable speeds in any conditions, without fuss or angst, simply didn't fit in the world we'd built for ourselves. How foolish we were!

Even back then, despite our beliefs, there were some superb boats of this type. Nowadays, with improvements in sails, rigging, and especially in engines, motorsailers have even more to recommend them—and now we're smart enough to recognize their virtues.

As he has done with everything



This motorsailer's hull lines indicate moderately heavy displacement for her length, which should contribute to steady and easy motion. The canoe stern will help the boat move efficiently at reasonable speeds, and it will look fine from all perspectives.

---

from open rowboats to gaff-rigged pilot cutters, Paul Gartside has shown his ability to distill the best from the typical motorsailer of a couple of generations ago, and infuse the resulting brew with his own unique and sensible style, incorporating meaningful updates in construction and equipment without losing the flavor of tradition. Here's a fine example of his work in this most comfortable genre—a great example of the virtues in moderation.

With this design, Gartside has wriggled free of the cumbersome embrace of the English measurement system—a move I've been resisting in my own practice, more from an emotional fear of giving up the comfort of years of familiarity than from a lack of appreciation of the metric system's advantages. However, let's try to bite the bullet and avoid conversions—at some point, we may need to admit that the rest of the world might just be on to something. At 14.9 meters in overall length, with a displacement of 23,500 kg, this boat is long enough and big enough to take us anywhere we desire, and her moderately heavy displacement for her length will assure a steady, easy motion while we get there. Her shapely hull uses the proven form of the canoe stern, a shape linked to easy, efficient movement under power at speeds well below theoretical hull speed. Think of sardine carriers, Liberty ships, and, well, canoes—all known for slipping along nearly effortlessly, even when heavily loaded. For this boat, that speed will be in the neighborhood of, say, 6½ knots. With her 100-kW diesel, we can push her faster in smooth water, but the resulting fuel burn will be far out of proportion to the speed increase. The sizable engine allows us to run at lower rpm in smooth conditions, with some oomph in the bank for when the going gets rough. If we're smart, and wealthy, enough, we'll fit a feathering propeller so the drag when under sail will be much reduced without sacrificing efficiency under power.

The boat's jaunty profile is salty enough to satisfy the most dyed-in-the-wool traditionalist, with a deeply swept sheer that keeps freeboard nice and low amidships, for ease of boarding and good looks, while freeboard at bow and stern is ample to keep the decks dry in a seaway. The security offered by her high bulwarks is complemented by her large freeing ports to alleviate the worry of trapping a significant weight of water on deck. Gartside has employed modern construction techniques to avoid the maintenance issues associated with traditionally constructed bulwarks—the frame ends terminate belowdecks, the bulwarks are backed up by plywood doublers, and fiberglass sheathing protects against water intrusion. A substantial sponson, or rubrail, and a thicker "wale" applied over the cold-molded hull protect against the inevitable crunches that a real cruiser will encounter.

Gartside has selected a ketch rig—common enough for boats of this type, where the less-than-stellar windward performance can be helped out by an engine turning at low revolutions, and where multiple

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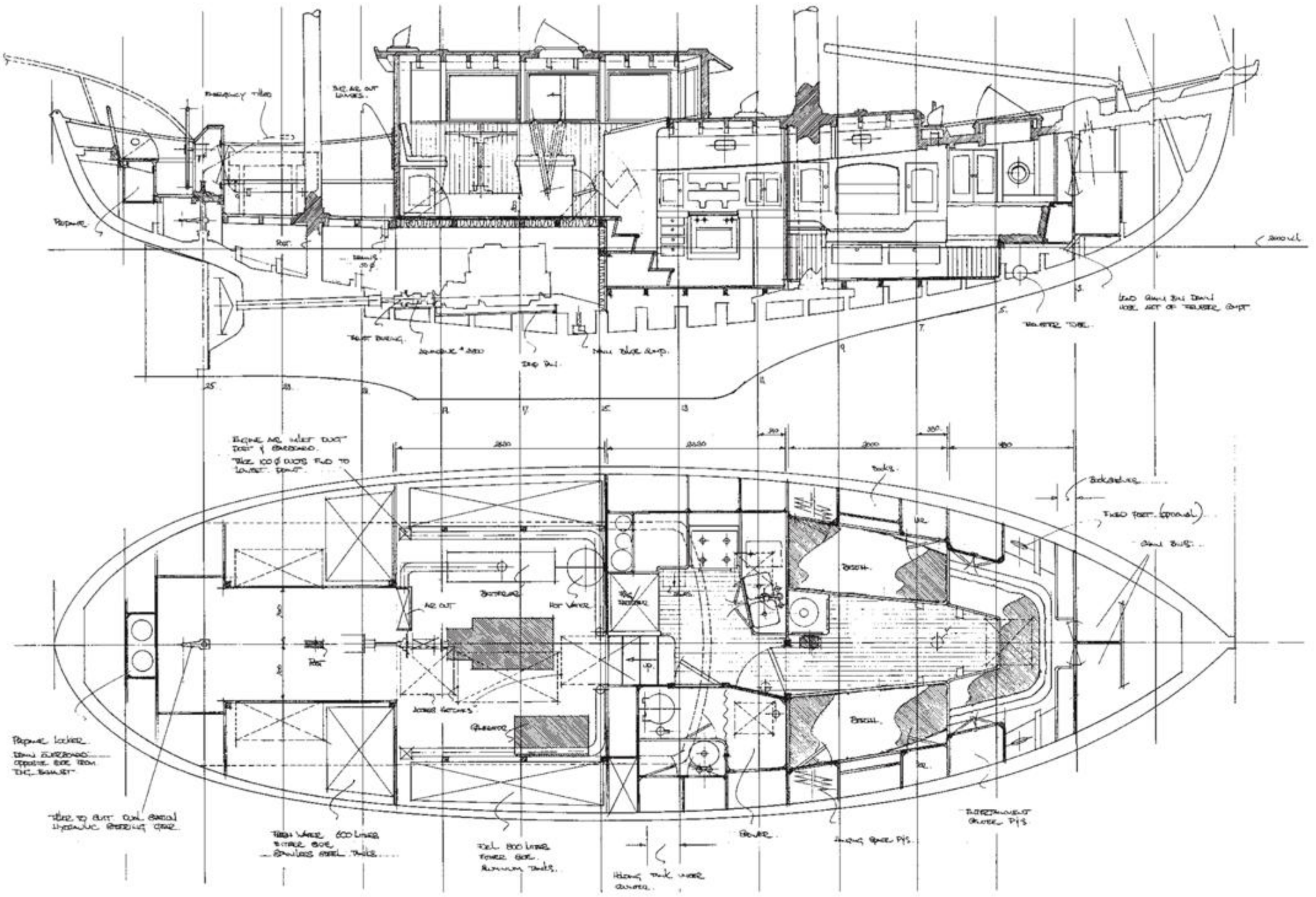

Extreme comfort for a crew of two: the airy pilothouse carries its sole at the same height as the cockpit, which creates a huge "indoor/outdoor" living space. Up forward, the accommodations appear cozy, but certainly not cramped.

sail combinations allow fine-tuning for best performance while motorsailing. What's less common is the loftiness of the rig. The aluminum spars tower over the low hull, and the sail plan shows a surprisingly high aspect ratio. Despite the height of the masts, the sail area is still relatively modest when compared to the boat's displacement—she will welcome a boost by the motor in light airs, but when it breezes up, she will come into her own under sail.

A high importance has been placed upon living spaces at deck level—both outside and under cover—at the expense of belowdeck accommodations. In an era when most boats of this size will feature three double staterooms with ensuite heads, this boat has clearly been designed with other priorities. One wonders what the conversations between designer and client were like while working out the arrangement. A large, wide, and well-protected aft cockpit provides lots of stretching-out space for sailing or sunning. In most conditions this will add greatly to the crew's enjoyment—but in really rough situations, I'd want to be sure I had planned for seriously big cockpit scupper drains; this cockpit can hold a lot of water.

The capacious pilothouse is the heart of the boat. The sole is at the same height as the cockpit sole, so the space will feel like an extension of the outdoor space, and big windows all around will make the raised saloon a great place to watch the world go by, whether in fine weather or foul. A roomy helm station to starboard is balanced by a huge chart table to port—a navigator's dream.

Below, the compromise forced by the roominess of the on-deck spaces becomes apparent. A spacious galley to port and head to starboard give way to an ample forward cabin with two wide single bunks suggesting that for this client the comfort of good passagemaking berths outweighs the allure of a romantic master suite. A diminutive but cozy "fo'c's'le" seating area calls forth memories of fishing schooners, oil lamps, and sea stories.

While some will undoubtedly question the concept of a large craft with a layout clearly intended only for the comfort of a crew of two, the traditional salty charm of this motorsailer, combined with Paul Gartside's dependably sensible combination of tradition and modern construction, promise a cruiser that will truly pamper her crew of two. Should I be fortunate enough to see her slide into my harbor, rest assured I won't be looking down my nose.

Bob Stephens is a principal of Stephens Waring Yacht Design, in Belfast, Maine.

Plans from Paul Gartside Ltd., Boat Builder and Designer, P.O. Box 1575, Shelburne, NS, B0T 1W0, Canada; 902–875–2112; www.gartsideboats.com.

Portsoy is a lovely little place with a 300-year-old harbor that dries out at low tide. For that reason, the festival takes place when high tide is during the mid-day hours—but there is much to do and see on shore during the two-day festival. Besides boatbuilding, restoration, and maritime craftsmanship of all sorts, there is an emphasis on Scottish music, dancing, traditional crafts, food, and drink. Traditional and interesting boats of all sizes—not just Scottish boats—are welcome and people come from around Britain plus Scandinavia, Holland, France, and even the United States.

The Scottish Traditional Boat Festival

Photographs and captions by Kathy Mansfield

When Kathy Mansfield took a junior year abroad from Connecticut College, she attended Cambridge University in England. Wanting to share her experiences with family and friends, she began shooting photographs, and hasn't stopped since.

Kathy, in fact, remained in England to start an academic publishing career, and also published a few gardening images. "It was important," she recalls, "to visit a garden before the wind got up and complicated the photo shoot."

"I'd always loved sailing small boats," Kathy continues. She was inspired by an older relative, George Whiteley, who had photographed and written about boats, He visited Kathy in England, and his stories reminded her of her childhood years on Cape Cod. Shortly after that visit, a relative invited Kathy and her husband to sail on the west coast of Scotland, and talked of his plans to establish the Unst Boat Haven museum in Shetland. "That was it," Kathy recalls. "I decided to use wind rather than trying to avoid it, and my camera turned to wooden boats. I now photograph and write for various magazines in the U.S., England, and Europe." Kathy also publishes the calendar *Classic Sail* (www.tidemarkpress.com).

On the following pages, Kathy focuses on the boats attending the 2011 Traditional Scottish Boat Festival at Portsoy on the Moray Firth in northeast Scotland. This year's festival runs June 23–24. —*Eds*

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KNUT is a replica Norwegian Sunnfjordsekskeiping. The original was built in 1860 and used for fishing until 1910 and stored in a boathouse since 1920. Norwegian Haakon Dyrstad began to use it in about 1990, but was advised to build a replica to save the original boat; he named the replica for the old boat's first owner. Haakon has sailed long distances from Norway in the new boat, including an early voyage to York, England. En-route to the festival, the Wick lifeboatmen on the herring drifter ISABELLA FORTUNA sailed over to KNUT and delivered a bottle of whisky in the traditional manner, throwing a line with the bottle tied in halfway along, keeping the other end of the line until the bottle was removed, and hauling the line back. Seagoing etiquette has not died out in Scotland.

These St. Ayles skiffs, designed by Iain Oughtred for the Scottish Coastal Rowing Project, are an exciting new addition to the Scottish Traditional Boat Festival. The plywood for these hulls is computer-cut by Jordan Boats in Scotland, and community groups build the kits and row the boats, with as many women as men coming forward to train and row competitively in races around the Scottish coast. It seems to have struck a chord: The boat is a reasonably priced, and well-organized for amateur construction, and rowing is less-complicated than sailing, more fun than working out in a gym, and sociable.

A crewman enjoys the view from the Scottish Fisheries Museum's 1902 lug rigged REAPER. This 70' sailing herring drifter, a so-called Fifie, (see opposite page, and WB No. 212) was built in Fraserburgh on the east coast of Scotland and rigged traditionally with a dipping-lug foresail and a standing-lug mizzen. She moved to Lerwick, Shetland, in 1908, and was not powered until 1916. During WWII, she was requisitioned for service in southeastern England. In 1959 the Shetland County Council acquired her as a "flit boat" for carrying cargoes and gravel for roads and pier building among the islands. In 1979, The Scottish Fisheries Museum bought and restored her, adding a museum display in the fish hold. She now is maintained and crewed by volunteers who take her along the coast of Scotland and farther afield, welcoming aboard many people.

Coracles are an ancient working boat made of a framework of split willow tied together with willow bark and covered with tarred hide. They are lightweight and easy to make from local materials. This one was built by David Raffel and his grandson Euan Raffel from Ripon in Yorkshire, who demonstrate the traditional building of these craft in northern England and in Scotland. Behind the coracle is the Scottish Fifie BLACK GOLD (see opposite page).

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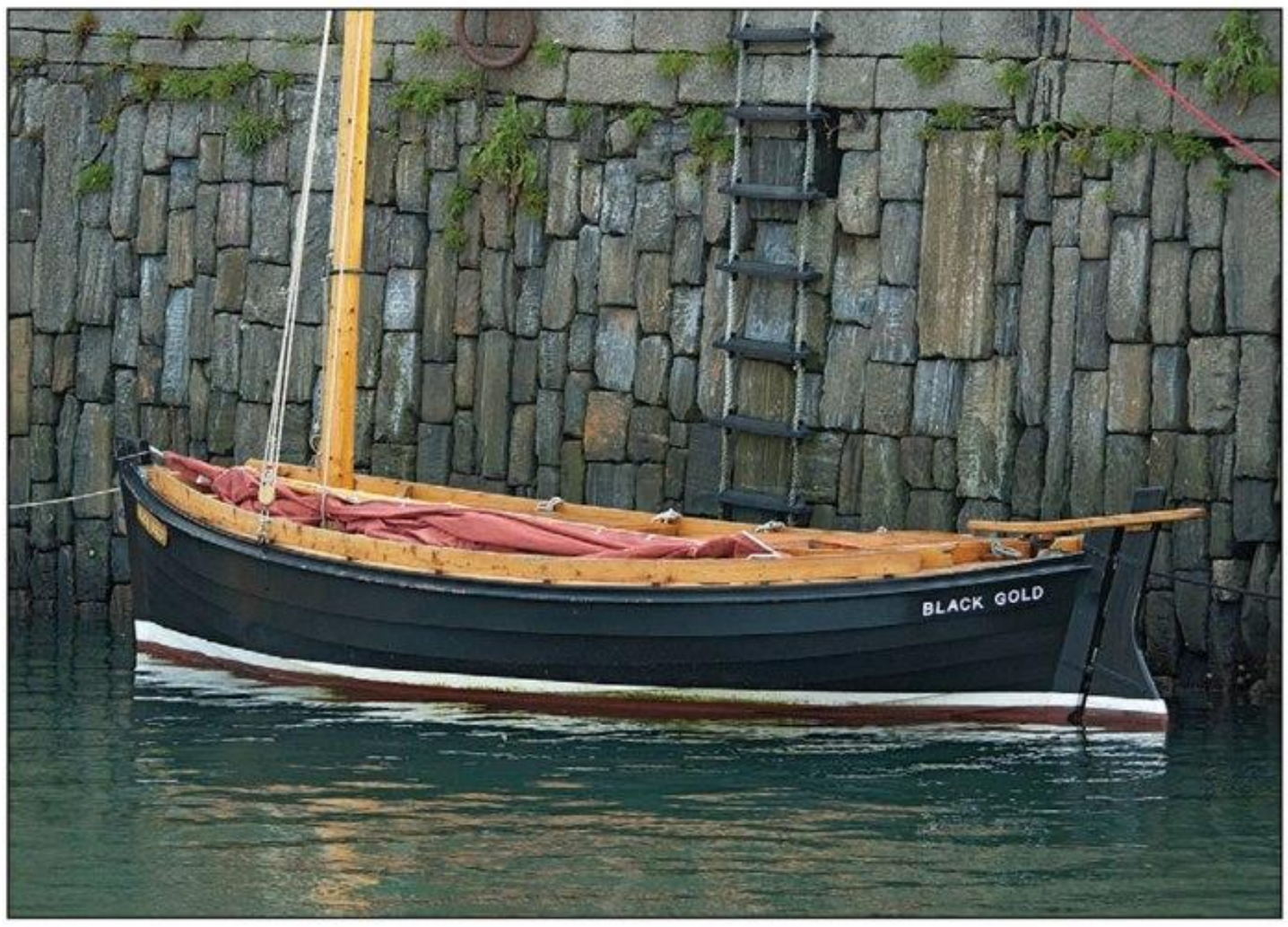
The 33′ Ness Sgoth AN SULAIRE (left) was built by John Murdo McLeod on Harris in the Western Isles of Scotland. His grandfather was the last commercial boatbuilder in the area, and before the building techniques were lost, he wanted a full-size replica of a Ness boat, an open herring-fishing boat used in the area. He was joined by assistant Angus Smith and their work in 1993 and 1994 was made into a documentary film for the BBC, *Tree to Sea*. AN SULAIRE, here in company with KNUT (page 79) en-route to Portsoy, sails the coast of Scotland and welcomes aboard interested people to see and sail her.



This small Fifie, about 20′ long, was built by her Portsoy-based owner, Alasdair Scott. BLACK GOLD is built traditionally of larch, and rests here against the wall of the 300-year-old stone harbor of Portsoy. She is rigged with a dipping lug, built with fish wells below; Alasdair can be seen line-fishing if the wind is not strong enough for racing during the Scottish Traditional Boat Festival. The Fifie was one of the most enduring of the Scottish fishing boats. With their double-ended hulls and plumb stems and sternposts, they were powerful under their traditional dipping-lug rigs and able to hold well to windward in strong winds.

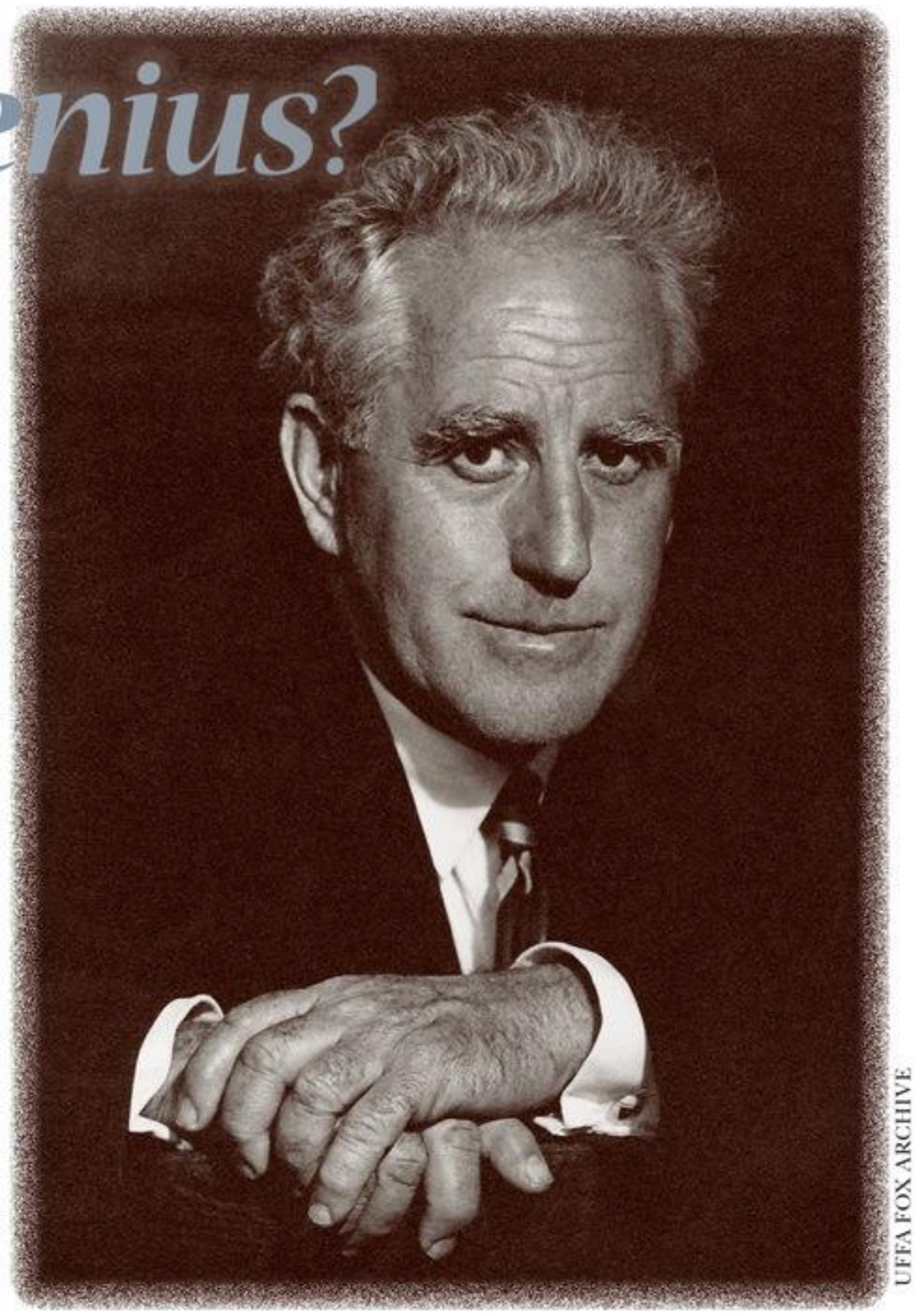
For more information on the festival, visit www.scottishtraditionalboatfestival.co.uk.

Uffa Fox

Madman or Genius?

PART FOUR
A special connection

by Nic Compton



UFFA FOX ARCHIVE

Uffa Fox had developed several breakthrough designs before and during World War II, and his postwar years were no less fertile.

The Second World War had been good to Uffa Fox. Despite enjoying massive success with his International 14s before the war, he had overstretched himself financially by buying a large boatyard in Cowes in the late 1930s and was nearly at the breaking point when hostilities were announced. However, his invention of the airborne lifeboat (with a helping hand from the Ministry of Defense) not only became his proudest achievement but also paid him handsomely—enough to sort out his immediate financial problems and buy a fancy house at Puckaster, on the other side of the Isle of Wight.

The project also raised his profile outside the yachting fraternity. Ridiculed by some but admired by many more, the airborne lifeboats symbolized many of the virtues the British prided themselves in: ingenuity, fortitude, and triumph in the face of adversity. In terms of national pride, each boat represented a mini-Dunkirk all its own. More important, the lifeboats were credited with saving 600 lives during the latter years of the war, a fact that earned Uffa many new friends.

One friendship in particular, forged in the summer of 1949, would transform his life. It was during Cowes Week on the Isle of Wight, and Prince Philip was attending a function at the Island Sailing Club (ISC). According to Uffa's nephew Tony Dixon, the Prince asked his hosts if there was anyone interesting for him to talk to at the event. "We've got just the chap for you," was the reply, as the Prince was steered across the room to where Uffa was holding court.

It was in many ways a meeting of opposites. Despite his towering reputation as a designer of small craft and an incisive yachting commentator, Uffa, by now in his early 50s, had retained his south coast brogue and blunt, uncompromising manner. Prince Philip, by contrast, was not yet 30 and, having married Queen Elizabeth two years before, was just getting used to the pomp and circumstance that being a member of the royal family entails—including trying not to speak his own mind. Yet the pair hit it off immediately.

"Uffa treated him the same way he would treat a dustman, because he treated everyone the same. He'd say, 'look nipper,' and Prince Philip loved that," says Dixon. "Prince Philip had been in the navy, and he liked straight talking."

Uffa soon became a regular fixture crewing on board the Prince's various boats, including the Dragon-class sloop BLUEBELL, a wedding gift to the royal couple from the ISC. As the friendship grew, he was invited to dinner on the Royal Yacht BRITANNIA and, later, Buckingham Palace, and in due course taught the royal children, notably Prince Charles, to sail. It was a friendship that would endure the rest of Uffa's life.

"It seems to have become a common belief that all people can be put into some arbitrary category or other," Prince Philip later wrote (*Uffa Fox: A Personal Biography*, by June Dixon, 1978). "Uffa defied this rubbish with relish. His life was one long campaign for the freedom of the human spirit and against the foolish, the stupid and the self-important, the whole conducted with a cheerful breeziness that disarmed all but the hardest case. All the qualities of his nature were over life-size but neither malice nor dishonesty were among

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PRESS ASSOCIATION

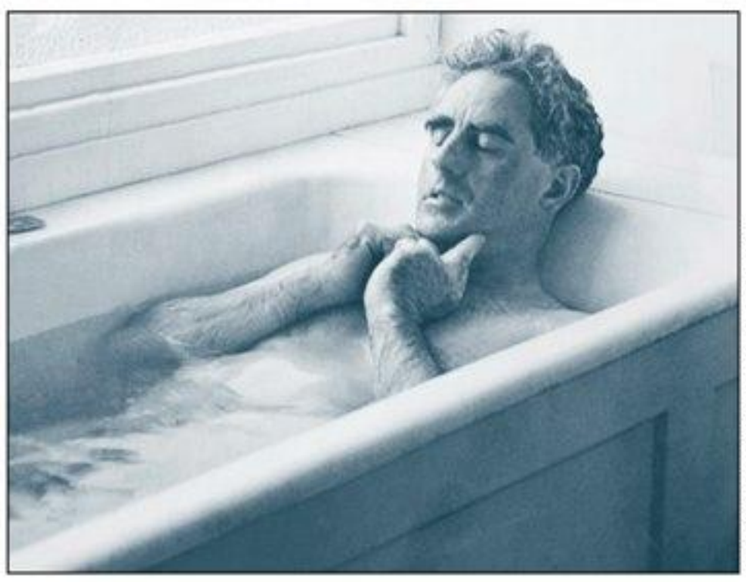
In the summer of 1949, at Cowes Week, Uffa became friends with Prince Philip, seen here at the helm of his Dragon-class sloop. The friendship extended—at least partly—to other members of the Royal family, including Prince Charles, whom Uffa taught to sail.

them. In conventional terms Uffa was eccentric, but it has always struck me that even his more bizarre ideas had a way of exposing how irrational some of our more cherished conventions can be."

The end of the war brought new opportunities for those able to adapt and make the most of some dramatic advances in technology. Uffa embraced these changes by joining forces with Fairey Marine to produce a line of successful designs based on the hot-molding techniques developed for the production of wartime aircraft (see Part 3, WB No. 223). But, while the Firefly was revolutionary in being the first-ever mass-produced dinghy, its design was hardly original, having been conceived in 1936 as the Cambridge University One-Design. Future boats in the Fairey line were also mostly developments of the classic planing hull—including the fastest dinghy of its day, the 18′ Jolly Boat, capable of over 13 knots. What was lacking, in design terms, was a "big idea" of the scale of Uffa's first planing dinghy, or the spectacular originality of the airborne lifeboats.

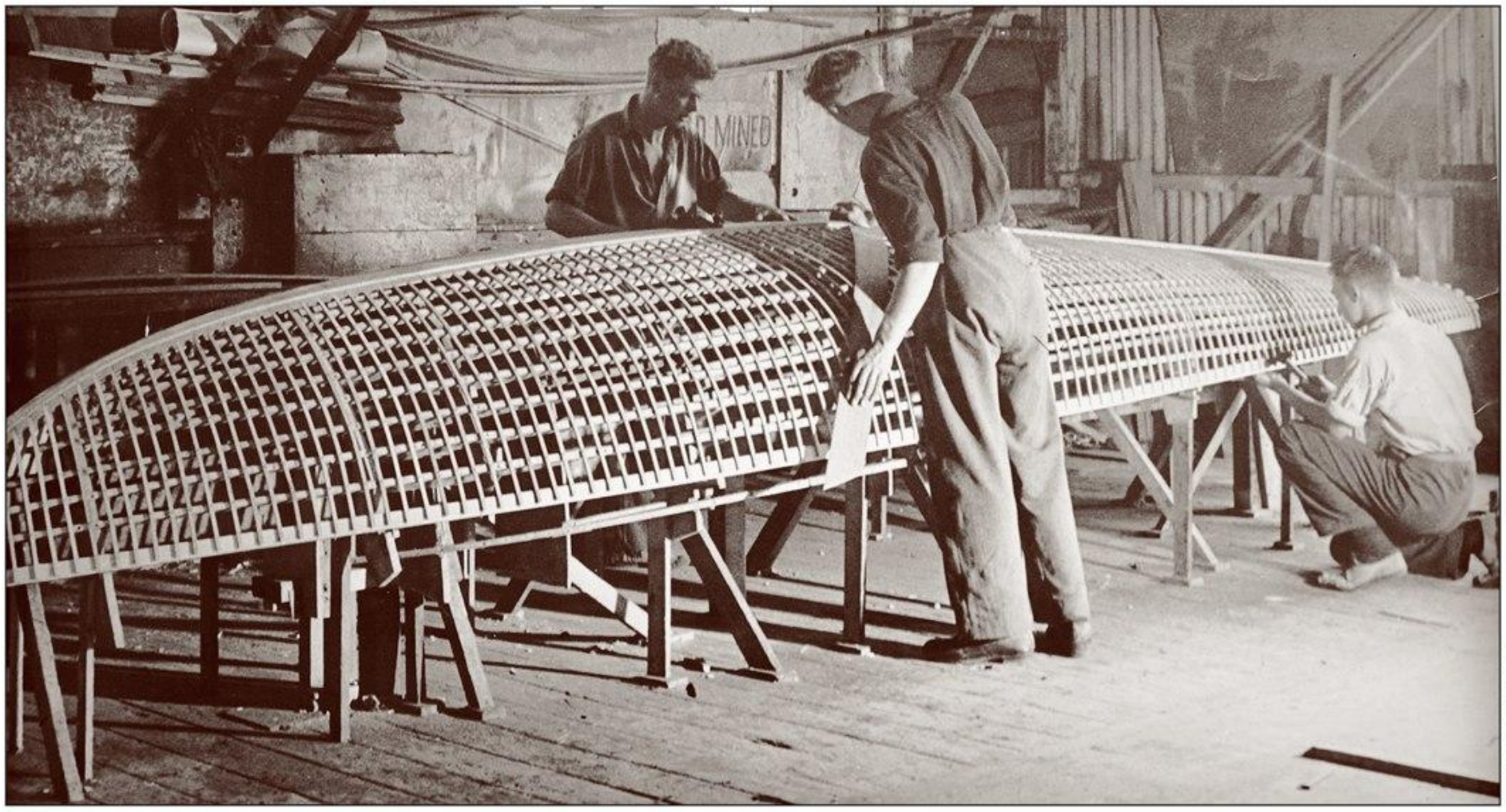
A breakthrough concept was, however, forming in Uffa's brain. It emerged, according to legend, where many of Uffa's ideas emerged: in the bath. According to his 1959 book *Sailing Boats*, Uffa often spent up to two hours soaking. "In the bath," he explained, "one weighs next to nothing, the warmth sends the blood surging round the body and its soothing effect stimulates calm and quiet thinking." The thinking that this particular bath stimulated was the Flying Fifteen, which, from her distinctive keel to her rudder and deck arrangement, came to him "swiftly as a flash of lightning."

In fact, the origins of the design stretch back a good deal farther than that. After the war, the RYA had invited designs for a two-man keelboat to race in the 1948 Olympics. Uffa had designed a 25′ light-displacement



CROWN/UFFA FOX ARCHIVE

Uffa in the bathtub at Medina house, recreating the moment he invented the Flying 15. Many of his best ideas were said to have emerged while soaking.



UFFA FOX ARCHIVE

The Flying 15 COWESLIP under construction. The "15" was one of a range of 10 designs, in 5′ increments, that blended speed with easy handling and low cost.

hull with a detachable keel—a feature inspired by the Star class—and had built a prototype to undergo trials. In the event, PENSIVE TEMPTRESS didn't conform to the RYA brief, and the National Swallow, designed by Tom Thorneycroft, was adopted instead. The exercise was not a waste of time, however, as not only did Uffa's design win a number of races locally, but it proved the concept of a planing keelboat was possible—if somewhat wet. Scaled down to 20′ LOA on a 15′ waterline, it became the basis of the Flying Fifteen.

Uffa himself credited the origins of the design to his friend Jimmy Damant, commodore of the ISC and one of his first International 14 clients, who apparently said to him: "Design a boat like this 14-footer, but at least 18′ long, that will not capsize. Then you will have a sensible, safe boat, that is fun to sail as well, for the rough and tumble of tidal waters like the Solent."

Whatever its origins, the idea of a keel boat that could plane must have seemed quite contradictory, if not impossible, at that time, but it turned what would have already been an exciting boat into a revolutionary one. Sailors could now enjoy the thrill of thundering off the wind at 12 knots without worrying about being pitched into the water at any moment. As Uffa wrote about the prototype Flying Fifteen—named MY DAINTY DUCK after his then-girlfriend—"her speed, easy handling and low building and upkeep cost convinced me that here was a new world for yachtsmen." (Arguably Ray Hunt got there first with his International 110, which had a bulb keel, but that was a little-known class outside the U.S.)

So excited was he by his latest brainwave that he set about designing a whole "Flying Family," increasing the waterline length in 5′ increments to produce 15′, 20′, 25′, 30′, 35′, 40′, 45′, 50′—all of which were built except the 40′ and 45′ versions. He later added 10′ and 12′ versions to the range.

One of the most extraordinary members of the "family" was the Flying 30 HUFF OF ARKLOW, launched in 1951. With her cutaway aft deck, she looks strange to the contemporary eye and must have seemed positively outlandish when she was first launched. HUFF was one of the first yachts to have a fin keel and skeg rudder—15 years before the concept was applied by Dick Carter to his Fastnet-winning RABBIT and Sparkman & Stephens to their two-time AMERICA's Cup winner INTREPID. Like her smaller sisters, HUFF was expected to plane. Indeed, Uffa wrote of the Flying 35 FLYING FOX: "She has the ability to plane, but since she is a cruiser this only happens occasionally and is rather terrifying, though quite comfortable."

Ever the canny publicist, at the start of his friendship with Prince Philip, Uffa persuaded Cowes council that a Flying Fifteen would make a fitting wedding gift from the town, and No. 192, COWESLIP, was duly presented to the royal couple. The boat accompanied the Prince when he was posted to Malta for two years in 1949, and later went around the world on the deck of the Royal Yacht BRITANNIA. After his return to the U.K., Prince Philip became an active competitor in the Cowes fleet, winning the class at Cowes Week in 1951, and providing endless photographic opportunities for Uffa's creation. It was the kind of PR that no amount of money can buy, and the Flying Fifteen fleet quickly grew, both in the U.K. and abroad.

Uffa's attempt to apply the "flying" concept to the

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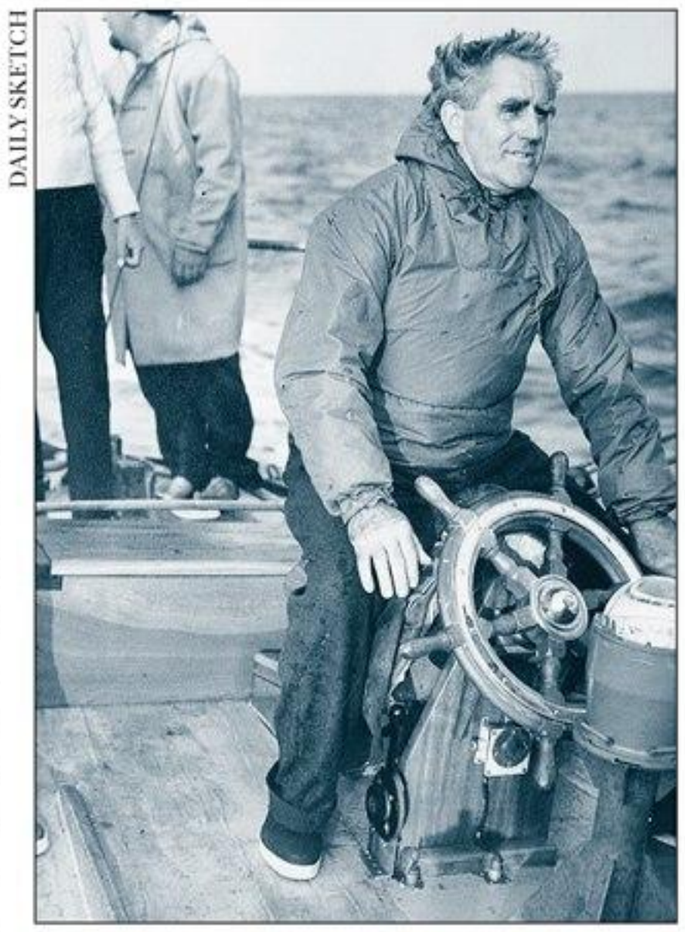

DAILY SKETCH

UFFA at the helm of FRESH BREEZE, which he designed for a client who died mid-build. Uffa owned the boat for a short period of time. The helm seat, seen here, is gimbaled and equipped with a saddle.

established racing classes was rather less successful. The Six-Meter NORODA, built for the commodore of the Royal Corinthian Yacht Club, F.G. "Tiny" Mitchell, had a "shark-like" keel and kicked-back rudder that looked suspiciously like a scaled-up version of the Flying Fifteen formula—albeit fitted to a conventional semi-displacement hull. Far from revolutionizing the class, however, the yacht was said to broach horribly and to be virtually uncontrollable in a strong wind.

Despite this setback, Uffa still received occasional commissions for larger boats. One happy customer was Viscount Runciman, who had bought Uffa's 1938 design STARDUST and renamed her MARY LUNN after a Hilaire Belloc character who had "a whacking lot of fun." Evidently pleased with his acquisition, when the time came for an upgrade he approached Uffa for a new design. The 49′ SANDAVORE was the result, which was subsequently sailed extensively around Europe. SANDAVORE was not only a useful commission money-wise, during yet another difficult financial moment, but it also enabled Uffa to achieve another long-held ambition. Despite having designed countless boats and being one of the most influential boat designers of his generation, he had never gained proper professional qualifications. When he discovered that Lord Runciman was president of the Royal Institute of Naval Architecture, he seized his moment and asked him to exercise his influence. Three months later, Uffa was elected a member of RINA—an honor that must have delighted him more than any number of commissions.

One of Uffa's favorite designs was the 35′ FRESH BREEZE, a long-keeled cruising yacht he designed for a customer in Somerset. When the client died before the project was completed, he bought the yacht from the man's widow and had it finished off for himself. Although a fairly conventional design, the fitout included some typically innovative Uffa-like features, including an upright piano that could be turned over and turned into a table (an idea he'd spotted on the S&S LANDFALL when he sailed aboard during the 1932 Transatlantic Race). The steering wheel was fitted with a saddle, complete with stirrups, which swung on gimbals to keep the helmsperson upright. Uffa's love affair with

Uffa's drawings for the Flying 15 included this car-top carrying apparatus. The boat seen here is COWESLIP, which Uffa persuaded the Cowes City Council to present as a wedding gift to Elizabeth and Philip.

UFFA FOX ARCHIVE

ROGER M. SMITH/UFFA FOX ARCHIVE

Uffa and Prince Charles sailing a Flying 15. According to a BBC interview with Uffa, the Prince was very good sailing to windward, but lacked concentration off the wind.

FRESH BREEZE was short-lived, however, as within a year his worsening financial situation forced him to put her on the market.

As ever, Uffa's outward air of success belied a series of financial crises and a tumultuous personal life. His relationship with his second wife, Cherry, had broken down and ended in a messy divorce, with Uffa refusing to pay alimony until forced to do so by the courts. He soon partied his way through the money he'd earned from the airborne lifeboats and had to sell his fancy house at Puckaster—initially keeping a cottage there, before selling that, too. He sold his boatbuilding business at the Medina yard, staying on as technical adviser until he fell out with the new owners. Although he still owned the Uffa Fox company name, his work from now on would be focused on design rather than construction.

With the assets released from these various sales, he bought a derelict 400-year-old warehouse on the Cowes waterfront, which he proceeded to convert into a grand townhouse suited to someone who might be expected to entertain royalty. Furniture included pieces by Chippendale and Sheraton, along with a Steinway piano once owned by Lord Byron, and a dining table that could seat 24 revelers. The small quay outside was fitted with a boat crane and became home to COWESLIP when the boat was not being used by Prince Philip.

Once again, Uffa had managed to turn a crisis to his advantage, but as usual it was not without a little help from his friends. His loyal supporter, Commodore Jimmy Damant, helped fund the massive works needed on Uffa's new home, and at one point had so much invested in the house that Uffa jokingly referred to it as "the commodore's house." The name stuck, and the property has been known as the Commodore's House ever since.

Inevitably, his connection with the royal family threw Uffa into the limelight, as he was photographed with various members of the family at successive Cowes Weeks and on the royal yacht. The royal stamp of approval combined with an amusing way with words and a notable lack of inhibition gradually turned him into something of a celebrity. Not that everyone approved of his antics, as an article in the August 15, 1955 issue of *Time* magazine makes clear:

"Conspicuously present at Cowes last week was the renaissance's principal architect: salty, roistering Uffa Fox, 57, one of the world's top yacht designers, boon companion and helmsman to the Duke of Edinburgh. He and Prince Philip fared no better than second, successively sailing in Uffa's 20-ton sloop FRESH BREEZE, the Duke's Fox-designed COWESLIP, and his slim Dragon-class sloop BLUEBOTTLE. But they had a fine time anyway. At his home, a converted waterfront warehouse, Uffa presided over the nightly after-dinner festivities that lasted until dawn. At a dinner for the Imperial Poona Yacht Club, he donned a pith helmet and led his cronies in spoon-hammering sea chanties [sic]. Said one Cowes pubkeeper: 'There's pirates 'round Cowes at regatta time, and Uffa's the worst of the lot.' Lusty Uffa Fox certainly has a touch of Kidd and Blackbeard about him—at least in the eyes of landlubbers, whom he has shocked all his life."

But Uffa had plenty of friends who delighted in his exuberance and seemed more than willing to smooth

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his way. His friendship with Sir Max Aitken, owner of the Express group of newspapers, no doubt ensured he was included on the *Daily Express*'s panel of experts at the first London Boat Show in 1954, as well as setting him up nicely to write regular articles about sailing for the newspaper.

Despite this revival of his literary career, Uffa still found it impossible to write a follow-up to the successful series of books he had written in the 1930s and on which his reputation was partly based. Truth be told, his then-wife Alma, a schoolteacher by profession, had co-authored the books, and Uffa hadn't written a new book since they separated in 1938. It wasn't until 1959 that he completed his long-awaited follow-up, and this time it was with a different publisher. A conventionally sized hardback with limited space for lines drawings and photographs, *Sailing Boats* contained the usual mix of design reviews (including several of Uffa's own designs) combined with some technical analysis and a good smattering of Uffa anecdotes. It was followed by *According to Uffa* in 1960, which was essentially an instruction manual for sailing, and two autobiographies, *Joys of Life* (1966) and *More Joys of Living* (1972).

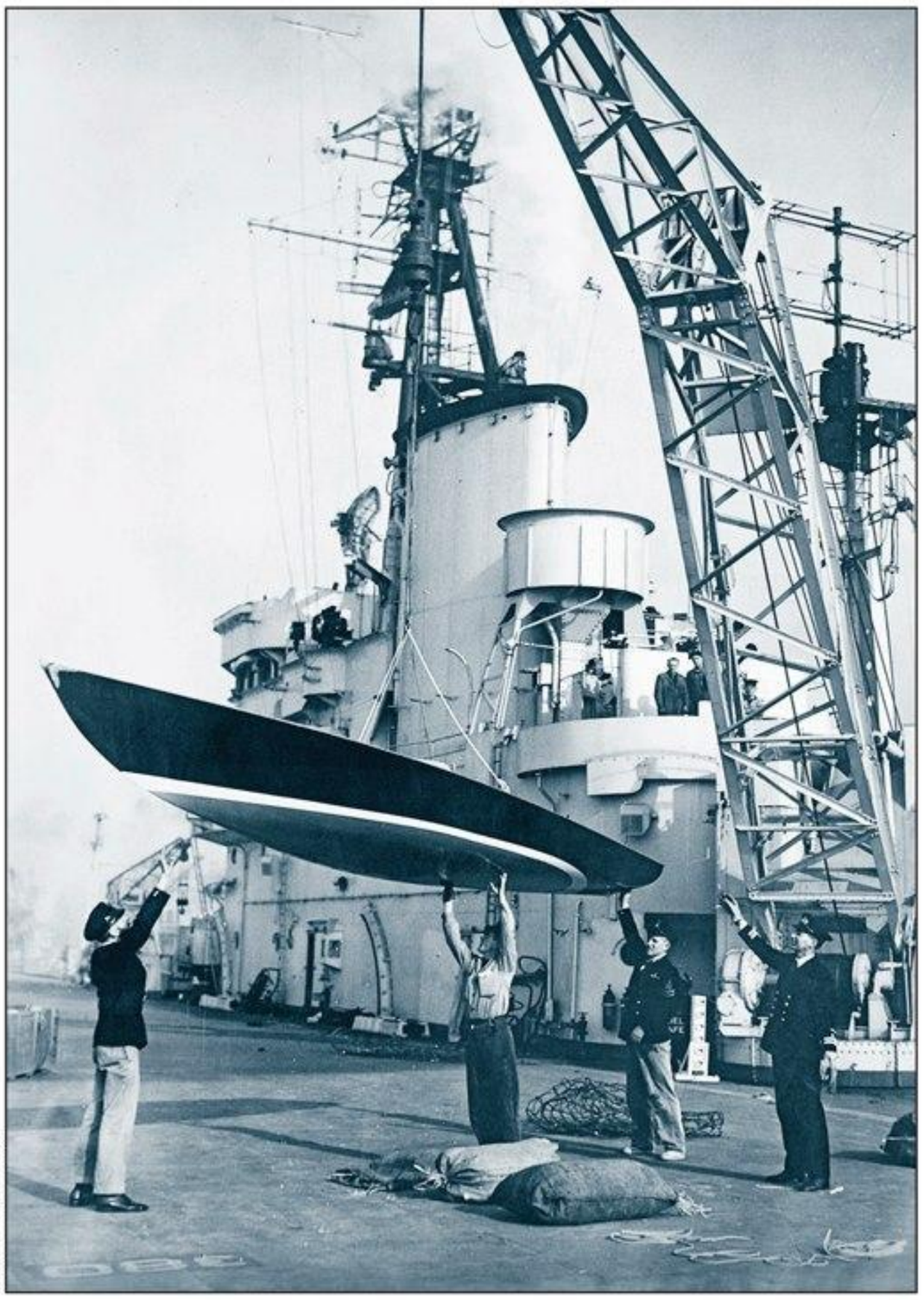
Although *Sailing Boats* sold better than expected, warranting four editions in as many years, the "small book" series was considerably less impressive than Uffa's previous oeuvre. In the "big book" series, Uffa's knowledge combined with Alma's sensitivity had produced a literary alchemy resulting in five exceptional books. Without her moderating influence, Uffa's opinions tended toward arrogance and his wise words sounded clichéd and trite. The price of the books today says it all: whereas the big books are regarded as collector's items and typically fetch around $95 or more, the later small books usually sell for about $10.

By now in his 60s, Uffa showed no sign of slowing down and, despite his hectic social life, he still found time to produce new designs. As ever, the more unusual or challenging the project, the more it interested him. When Bell Woodworking devised a type of plywood that could be bent both ways—thereby getting around the problem of creating compound curves out of ply—Uffa was enlisted to create "the best 14′ dinghy in the world." The result was the Pegasus, which was initially sold in kit form, allowing amateurs to build a professional-looking boat without the chines associated with most plywood kits. Although only 250 boats were built, the Pegasus was acknowledged as one of the best dinghies of its time—until it was eclipsed by ubiquitous fiberglass boats. The Bell Cat followed, also built using the Bell Round Bilge Method—although even when it was first launched, it looked strangely old-fashioned next to other contemporary catamarans such as the Shearwater.

But Uffa's best-selling design was yet to come and, when it did materialize, it went almost unnoticed in the U.K. George O'Day was an insurance salesman from Massachusetts who raced dinghies out of Marblehead. He would go on to win an Olympic Gold medal for the United States (in 1960) and serve as assistant helmsman in two America's Cup campaigns (1962 and 1967). In his spare time, he started a business importing the Fairey line of dinghies designed by Uffa, including the Firefly (whose U.S. championship he won in 1953), the Jolly Boat (ditto, 1957) and the International 14 (ditto, 1958).

When O'Day's company branched out into boatbuilding in 1958, he asked Uffa to design a 17′ family boat for the American market. Uffa drew a classic planing hull, with buoyancy tanks fore and aft, to which O'Day added a small cuddy (which Uffa disapproved of) and an outboard bracket. Billed as "the boat that launched 10,000 nights," the Daysailer caught the public appetite for an affordable dinghy that could be kept on a trailer, thereby saving on mooring fees, and which the whole family could pile into and, at a pinch, sleep on board. For several years after its launch it was America's best-selling small sailboat and, with more than 13,000 hulls sold, it still ranks as the best-selling Uffa design.

The 14′ Javelin followed, with the emphasis firmly on stability and comfort, without unduly affecting the boat's performance. This was achieved with wider-than-average beam (5′8″ maximum and 4′6″ at the waterline), plenty of buoyancy tanks filled with Styrofoam to achieve positive flotation, and a self-draining cockpit. More than 5,000 Javelins were built in the United States, before production moved to Japan.



DAILY GRAPHIC

The Flying 15 COWESLIP hangs from the crane of HMS GLORY. The boat is likely en-route to or from Malta, but the record is unclear which.

And so it was that Uffa entered his 61st year on an all-time high. Far from being a spent force, he was at the leading edge of dinghy design and had connections with influential people in the highest office in the land. Whereas his parents and one grandparent had served royalty, he was supping at their table as a respected and well-loved family friend (although perhaps not with the Queen, who is said to have despised him). Once regarded as the laughingstock of Cowes, he was now among its most celebrated citizens earning himself the tribute: "If it was Queen Victoria who put Cowes on the map, it was Uffa Fox who kept it there."

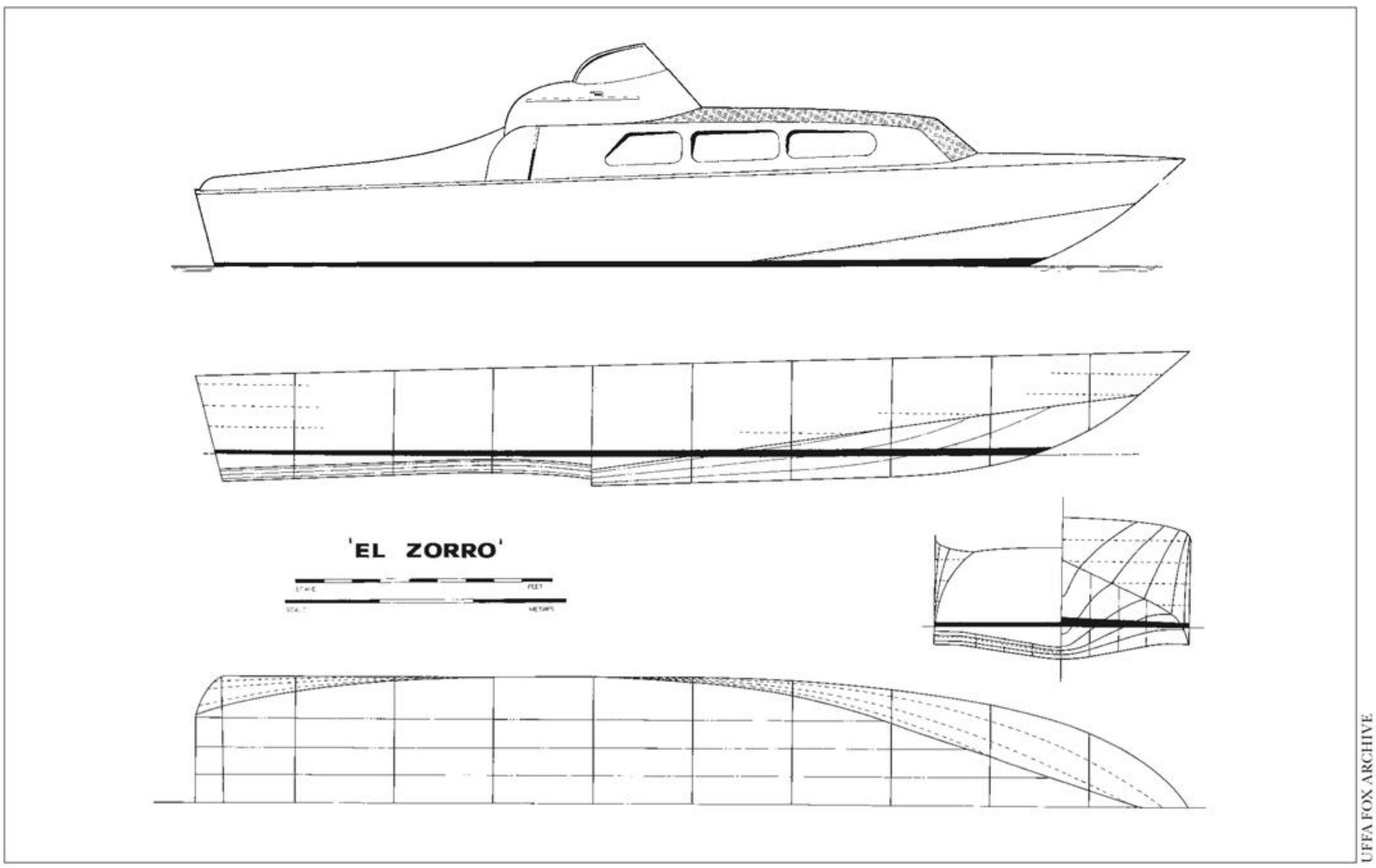
What could possibly come next? Record a best-selling album and become a famous pop star? Well, not quite, but in 1959 Uffa was asked to record an album of sea shanties for EMI records. *Uffa Sings* was recorded at the famous Abbey Road studios, with none other than Ron Goodwin as conductor and George Martin as producer. It included songs such as "A Life on the Ocean Wave," "Bay of Biscay," "Spanish Ladies," and other suitably salty tunes. Although the album was panned by Gramophone magazine—which accused Uffa of pitching "most uncertainly" and having a "severely functional approach to singing"—it was a must-buy for any self-respecting Uffa-cionado (to coin a phrase), and "Spanish Ladies" became a popular choice on radio request shows. The album was recently remastered and re-released to raise funds for the Royal National Lifeboat Institute.

Uffa's unlikely musical career continued when he was asked to compère a nationwide series of concerts by the British Concert Orchestra, conducted by his friend Victor Fleming, under the title *Music for the Sea.* As well as including famous orchestral pieces such as "The Flying Dutchman" and "The Cowes Suite", the evening's entertainment was spiced up by a shanty or two from Uffa.

Thanks mainly to his association with the royal family, he was by now a household name in the U.K. and appeared regularly on TV and radio shows, including the TV panel game *What's My Line?* A measure of his standing was his being featured in a 1963 edition of *This Is Your Life,* a now-defunct TV show in which famous personalities were reunited with friends and colleagues from their past. Among those brought on to celebrate Uffa's life were the first RAF crew to be saved by one of Uffa's airborne lifeboats during the Second World War (members of the so-called Goldfish Club), who paid tribute to the many lives that Uffa's creation had saved.

There was official recognition too, first in the form of a Diploma of Royal Designer of Industry, presented by the Royal Society of Arts in 1955, and then a CBE presented by the Queen in 1959. The Royal Designer of Industry award was presented by his old friend Prince Philip, who commented: "There is a tendency today to believe that every new invention must be scientific or rational. I can confirm that there is nothing scientific or rational about Mr. Fox."

Uffa's final design was the 35' stepped hydroplane EL ZORRO, which made speeds of 30 knots and planed with 20 people aboard.



UFFA FOX ARCHIVE

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UFFA FOX ARCHIVE

Uffa Fox at the oars of BRITANNIA. This 22-footer was based on the hull form of the flying lifeboat and was the first to be rowed across the Atlantic singlehanded.

Uffa had by this time met the new love of his life: a French lady by the name of Yvonne Bernard. The couple met at the La Baule Regatta in 1953, although their romance didn't really take off until Uffa visited Paris in 1956. It was an unlikely match, if only because Yvonne could speak no English, and Uffa could speak no French. When it came to tying the knot, the story goes that Uffa had to ask his friend Sir Max Aitken to propose on his behalf. The pair were married in Cowes, the week after Cowes Week, and for several years split their time between their respective countries, spending the winters in Paris and summers in Cowes. Uffa could even boast of opening a Paris "office"—essentially a penthouse on top of a seven-story parking garage in Montmartre owned by Yvonne, where he took refuge to write his books.

Well into his 60s, Uffa was still designing boats and still claiming records, albeit vicariously. In 1969, the 22′ rowing boat BRITANNIA, based on his airborne lifeboat, became the first to be rowed singlehanded across the Atlantic. Another commission was the 43′ hydroplane BLACK MARIA, which Sir Max Aitken entered in the 1963 Cowes-to-Torquay powerboat race, finishing a respectable 10th out of 45 competitors. One of the last boats he drew was the 25′ launch ANKLE DEEP, which he designed at the age of 72 and on which he blasted around the Solent during the last two years of his life, no doubt lambasting anyone who didn't have their sails set correctly. He won his last race, the Royal Thames Yacht Club's Holt Cup at Cowes Week, on COWESLIP, at the age of 70.

His very last design, which he completed shortly before he died, was a 35′ stepped hydroplane, which he drew for an Australian client. EL ZORRO, as the boat was called, was a smaller version of BLACK MARIA, with proportionally more beam (thanks to discreet nudging by his nephew and draftsman Tony Dixon). Her owner was evidently thrilled with this new creation, reporting that she had clocked up 30 knots on the measured mile, and that she could get on the plane quite easily even with 20 people on board!

By this time, Uffa and Yvonne had separated and were living apart, so when he had a heart attack in 1970 it was left to his friends to care for him. These included Prince Philip—who insisted on having him craned onto Britannia's deck on a ship's launch to save him having to climb the boarding ladder—and Norman and Josephine Terry, who nursed him for the last few months of his life. He died on October 27, 1972. His memorial service at St. Martin-in-the-Fields on Trafalgar Square was attended by many of the leading figures of the day, including Prince Philip, Prince Charles, Princess Anne, Sir Max Aitken, and Prime Minister Edward Heath (himself a keen sailor).

"He died because he burned the candle at both ends—and in the middle," says Tony Dixon, who worked with him from the 1950s onward. And certainly Uffa Fox was not one to do anything in moderation. His flat-out approach to life enabled him to push boundaries and imagine the unimaginable, as well as make him an unforgettable personality. It also made him many enemies, and there's little doubt that by today's standards he would be considered a bully and a misogynist. But that is not to diminish the scale of his achievements. Few people, if any, have been at the forefront of boat design for so long or managed to reinvent themselves so successfully and make themselves relevant for successive generations of sailors. Even now, many Fox-designed dinghies are raced as keenly, if not more so, than when they were first conceived. A flawed genius he may have been, but a genius he was nonetheless.

Nic Compton is a freelance writer and photographer based in Brighton, England. He has written about boats and the sea for 20 years, and has published nine books, including a biography of the designer Iain Oughtred. He is co-owner of a 25′ strip-planked Cheverton Caravel built in Cowes in 1961.

The Fir with Wood Like Larch

by Richard Jagels

Strength Properties of Douglas-fir and Western Larch

			STATIC BENDING		
Common Species Name	Moisture Content	Specific Gravity	Modulus of Rupture (kPa)	Modulus of Elasticity (MPa)	Work to Maximum Load (kJ/M³)
Douglas fir Coast	Green	0.45	53,000	10,800	52
	12%	0.48	85,000	13,400	68
Interior West	Green	0.46	53,000	10,400	50
	12%	0.50	87,000	12,600	73
Interior North	Green	0.45	51,000	9,700	56
	12%	0.48	90,000	12,300	72
Interior South	Green	0.43	47,000	8,000	55
	12%	0.46	82,000	10,300	62
Western Larch	Green	0.48	53,000	10,100	71
	12%	0.52	90,000	12,900	87

WOOD HANDBOOK

In 1824, David Douglas, the 25-year-old son of a Scottish stonemason, was sent to the Pacific Northwest of North America by London's Royal Horticultural Society on a plant-collecting expedition. By 1827, he had introduced a number of Pacific Northwest pines, spruces, and firs into British cultivation. Douglas's efforts would dramatically transform the arboreal landscape of the British Isles, and eventually large portions of continental Europe.

A few years later, in 1834, Douglas, while exploring Hawaii, climbed to the summit of Mauna Loa, a peak first reached by a fellow Scottish naturalist, Archibald Menzies, in 1794 while he was voyaging aboard HMS DISCOVERY on an expedition led by Capt. George Vancouver. Soon after Douglas ascended Mauna Loa, he died under mysterious circumstances while climbing another peak, Mauna Kea.

These two Scotsmen are linked by more than their common mountaineering feats. Each contributed his name to the same tree species. The popular name of the tree valued for its wood is Douglas-fir, and the scientific name is *Pseudotsuga menziesii*. Somewhat surprisingly, in the British Isles and elsewhere this tree is generally known as Oregon pine rather than by the name honoring a Scotsman.

The ambiguous taxonomic affinity of this tree is mirrored in its several common names—Douglas-fir, red fir, Douglas spruce, Oregon pine—as well as its scientific name. At various times, it has been linked to the conifer genera *Picea* (spruce), *Tsuga* (hemlock), *Abies* (fir), or *Pinus* (pine). Eventually, taxonomists decided that it needed a separate genus, hence *Pseudotsuga* (false hemlock).

Although now planted widely in temperate regions around the world, the fossil record indicates that the native range of Douglas-fir was always confined to western North America. Despite this species' limited longitudinal range, it extends in latitude from northern British Columbia to the mountains of central Mexico (55 to 19 degrees north)—although populations are quite widely separated in the southern part of the range.

Because of this huge latitudinal range, we might expect that wood properties of trees of this type could vary considerably. Added to this is another source of variation, the separation of this species into two varieties: coastal or green *(P. menziesii)*, and Rocky Mountain or blue *(P. menziesii* var. *glauca)*.

The coastal variety has a more restricted latitudinal range (about 2,200 km, or 1,300 miles) while the Rocky Mountain variety—usually called "interior" Douglas-fir by lumbermen—has a large latitudinal range (around 4,500 km, or 2,800 miles).

In the *Wood Handbook* we find that four categories of Douglas-fir are listed: Coast, Interior West, Interior North, and Interior South. Each of these has different wood properties, as seen in the table. A footnote to the table states: "Coast Douglas-fir is defined as Douglas-fir growing in Oregon and Washington State west of the Cascade Mountains summit. Interior West includes California and all counties in Oregon and Washington east of, but adjacent to, the Cascade summit; Interior North, the remainder of Oregon and Washington plus Idaho, Montana, and Wyoming; and Interior South, Utah, Colorado, Arizona, and New Mexico." The Mexican populations are not mentioned.

Confused? Take a deep breath, it's not that bad. Examination of the *Wood Handbook* table reveals that except for Interior South, the wood properties are not very different from one region or variety to another. If strength is of prime importance, I would avoid wood from Interior South, if possible.

More important than region of origin is how the forest was managed. In WB No. 222, I provided a set of criteria for choosing strong southern pine. The same criteria apply to Douglas-fir. Arthur Koehler, author of *The Properties and Uses of Wood* (McGraw-Hill, 1924), first proposed these guiding principles, and they have stood the test of time. To quote from Koehler: "No. 1 structural Douglas fir shall have on the average not less than six rings per inch, and at least one-third summerwood [latewood], or if the rings are wider, the [latewood] must constitute at least one-half of the ring."

Some plantation-grown Douglas-fir, regardless of region, would not meet these criteria, and would, therefore, not be acceptable for critical parts like masts or spars or frames. Large modern sawmills, eschewing the tedious method of counting rings, substitute an automated process of "machine-stress grading" where dimensional lumber is passed under a load and its modulus of elasticity is dynamically measured. Of course, the other grading rules that relate to knots, slope of grain, checks, splits, etc. still need to be applied.

If you are choosing lumber at a yard and selecting from a pile of Douglas-fir, you can improve your chances of getting the strongest wood by examining the ends of the stock and applying the rings-per-inch and percent-of-latewood criteria. This would also apply to selecting the best wood from a shipment since mill graders or machines can occasionally let below-grade wood slip by.

Because Douglas-fir has been widely planted in Europe, New Zealand, Chile, and Argentina, merchantable timber is available from some of these trees. Like all exotic plantings, Douglas-fir that has

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been grown outside its natural range will likely produce wood with different properties. In some places, like New Zealand, it can grow very rapidly and produce much weaker wood. Careful examination and testing should be undertaken before using this timber as a substitute for native-grown Douglas-fir.

Confined to the Transverse and Peninsular Ranges of southern California is another species of *Pseudotsuga (P. macrocarpa)*. Big-cone Douglas-fir, also known locally as big-cone spruce, false hemlock, or desert fir, is rarely used for lumber, since it is considered to have higher value for landscape planting and watershed protection. Like its northern cousin, big-cone Douglas-fir has been planted in the British Isles, and the first plantings of this variety came in about 1910. In Northern Ireland, some trees have attained heights of 60′, but it is unlikely that wood from this species would reach any but very local markets.

A trend among lumber manufacturers in recent decades is to combine and market two or more species under one trade name. In the eastern United States, three species of spruce (red, white, and black) are combined with balsam fir and marketed as spruce-fir dimensional lumber. In the west, Douglas-fir and western larch *(Larix occidentalis)* are often marketed together since they have similar strength and decay-resistance properties. I have included western larch in the table for comparison. Where this wood is used, the same growth ring and percent latewood criteria apply as for Douglas-fir or southern pines.

Recognizing that Interior South Douglas-fir is inferior in strength properties, this wood is marketed separately. The marketing stamps for the various marketing combinations are illustrated above. Careful scrutiny of the lumber mark will avoid later disappointment. An S or L added to the mark can change the product you get.

In many applications, Douglas-fir or western larch can be used interchangeably. For constructions, such as large ship masts, that require exceptionally long, clear timber, coastal Douglas-fir is the preferred wood because, in general, the interior Douglas-fir and western larch do not attain the high growth rates, dimensions, or age of coastal Douglas-fir. Greater rainfall and fog along the coast induce this differential.

Stamps show the provenance and species of Douglas-fir and western larch.

Dr. Richard Jagels is an emeritus professor of forest biology at the University of Maine, Orono. Please send correspondence to Dr. Jagels by mail to the care of WoodenBoat, *or via e-mail to Assistant Editor Robin Jettinghoff, robin@woodenboat.com.*

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LAUNCHINGS

Edited by Robin Jettinghoff

These pages are dedicated to sharing news of recently launched new boats and "relaunched" (that is, restored or substantially rebuilt) craft. Please send color photographs of your projects to: Launchings, WoodenBoat, P.O. Box 78, Brooklin, ME 04616, or e-mail us at launchings@woodenboat.com.

Include the following information: (1) length on deck; (2) beam; (3) type, class, or rig; (4) boat's name; (5) names and contact information (include e-mail or phone) of designer, builder, photographer, and owner; (6) port or place of intended use; (7) date of launching (should be within the past year); (8) brief description of construction or restoration.

AKI SUOKAS

Above—INARI III is a 53′ wooden electric-drive catamaran owned by Lake & Snow Inari, who offer daily sightseeing tours on Lake Inari in Finland. Designed by Aki Suokas of Windcraft, and built by Fantan Catamaran, INARI is planked with 40mm aspen strips over birch frames and sealed with epoxy. Two 25kW AC motors will propel 120 passengers for two hours. INARI also has a sauna. More information can be found at www.fantan.fi.

PETER CRIM

Left—Ten women at the Wind & Oar Boat School (www.wind-and-oar-boatschool.org) in Portland, Oregon, recently launched the St. Ayles skiff ROSIE. This 22′ × 5′6″ Iain Oughtred design was built from a kit, which included ROSIE's molds, frames, and planks. Other wood used in the boat—alder, oak, Douglas-fir, and maple—came from Oregon. Kits are available from Hewes & Co., www.hewesco.com.

D. N. HYLAN & ASSOCIATES

Above—D.N. Hylan & Associates of Brooklin, Maine, recently launched DELIVERANCE, a 43′ × 11′ fantail power cruiser, designed by Doug Hylan. She is carvel-planked in Douglas-fir over oak frames, with an angelique backbone. Displacing 12 tons, she is intended for simple but elegant cruising along the East Coast and in the Caribbean. Plans and completed boats are available from D.N. Hylan & Associates, www.dhylanboats.com.

Below—Sam Kuhn spent his summer break from college last year building SEAWEED, a 12′1″ Janette catboat designed by John Welsford. Sam finished her early last summer and launched her in July. SEAWEED's hull is meranti plywood, with trim made from fir. His blog www.letshopeitfloats.posterous.com documents his progress. Plans are available from John Welsford, www.jwboatdesigns.co.nz.

GRAHAM FOY

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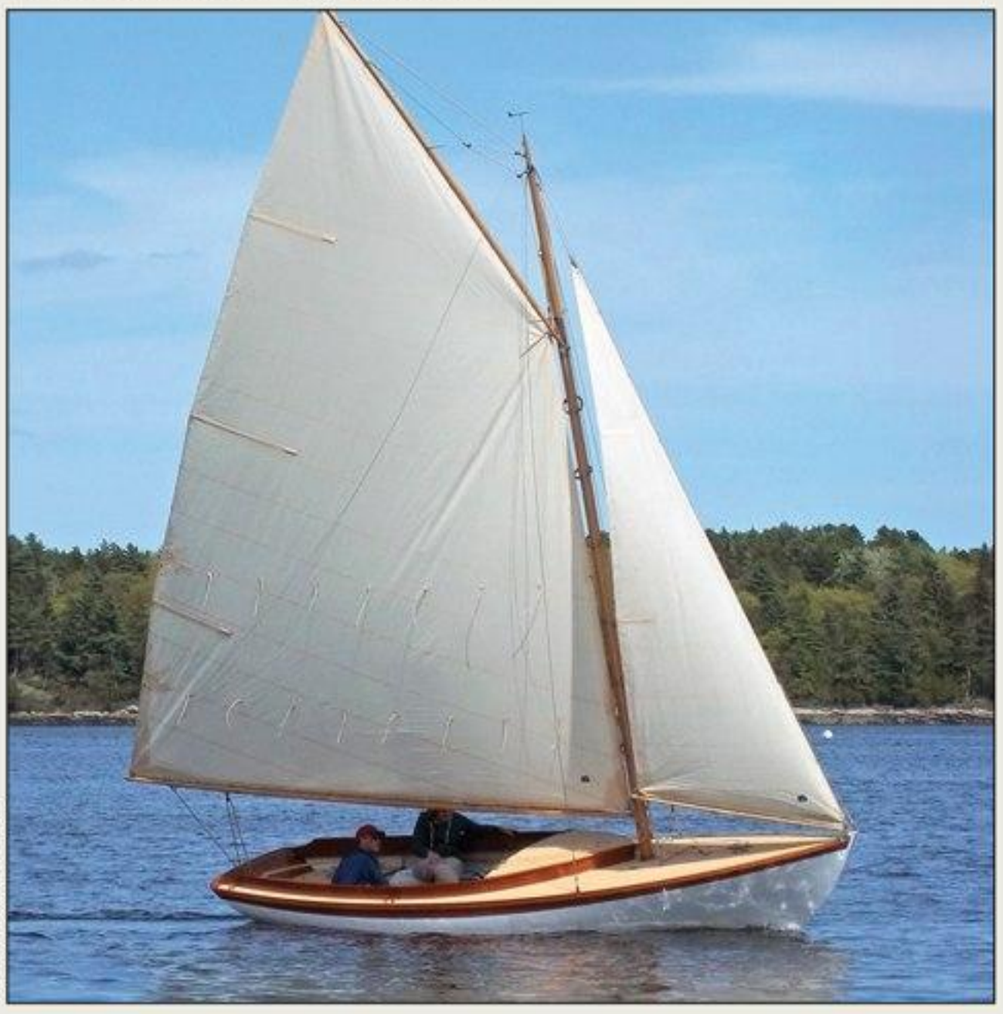
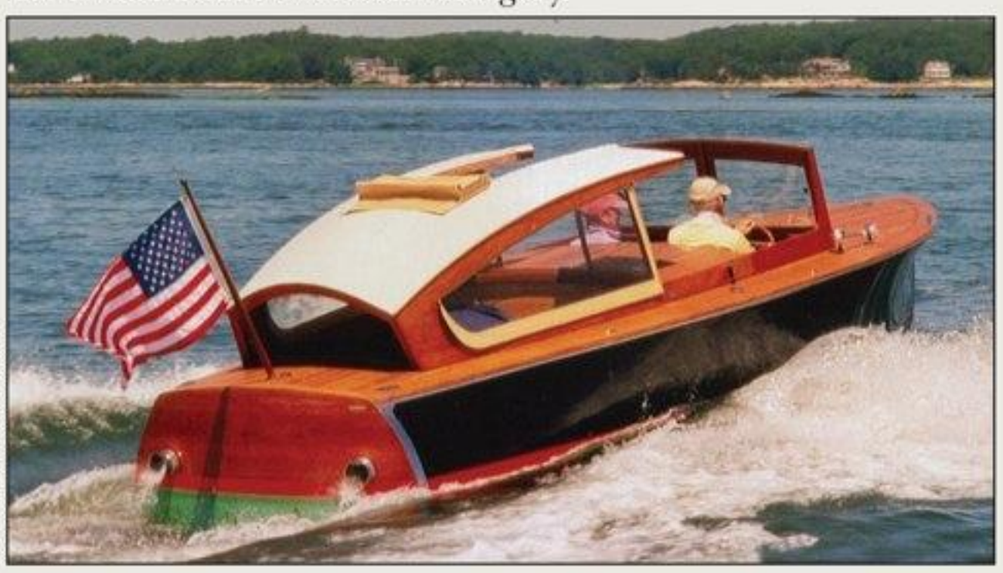
Below—TULIP is a Nat Herreshoff–designed Fish-Class gaff-rigged sloop, measuring 21′ on deck, and carrying 265 sq ft of sail. Artisan Boatworks, of Rockport, Maine, (www.artisanboatworks.com) built her of edge-glued cedar planking over oak frames, with a laminated mahogany backbone. She displaces 2,850 lbs and was fitted with a small diesel engine. Plans for the Fish are in the Hart Nautical Collections at MIT.



ALEC BRAINERD

Below—After asking Steve Killing (www.stevekilling.com) to design this 24′ × 7′ classic runabout hull for him, Bill DeCossy added a cuddy and galley making MEMOIRE suitable for short cruises. Bill notes that Tony Dias was also very helpful. MEMOIRE's hull is laid up of ⅛″ mahogany veneers cold-molded over mahogany frames and battens. She won first place at the 2011 WoodenBoat Show in the Owner-Built Powerboats Category.



RUSSELL SANTORA

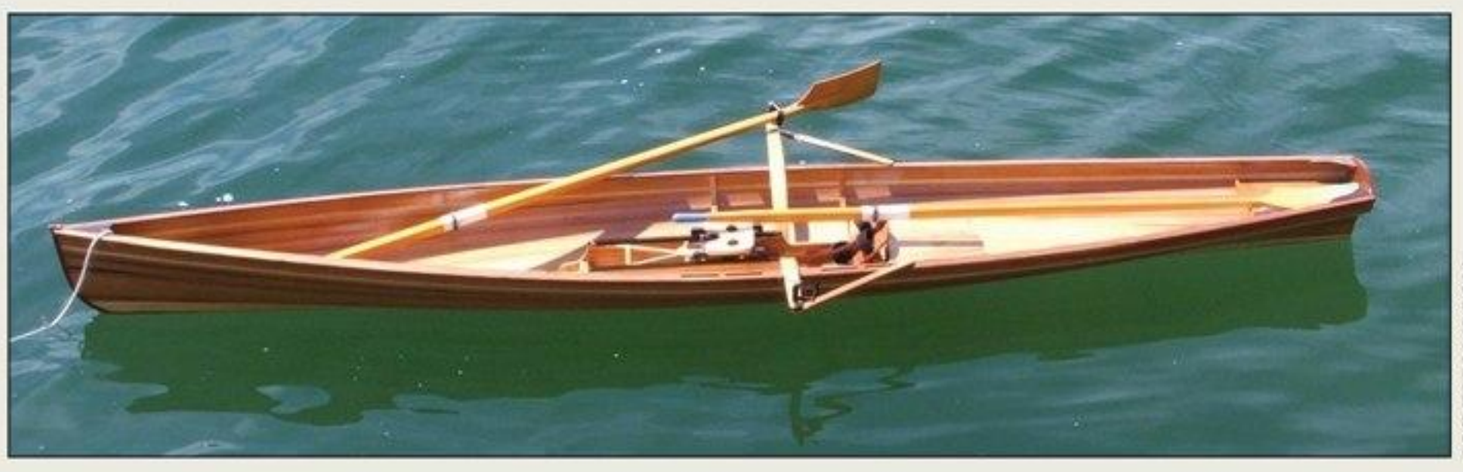
LORETTA GREEN

Above—Mike Green built MARIE, 17′ × 53″, by adapting her from John Gardner's Whitehall plans in Gardner's book, *Building Classic Small Craft*. She is strip-planked cedar sealed with epoxy and 'glass. Green also included a daggerboard trunk. He launched her on Shadow Lake near Seattle, in September, after 11 months of building. The builder says she is a sweet boat to row.

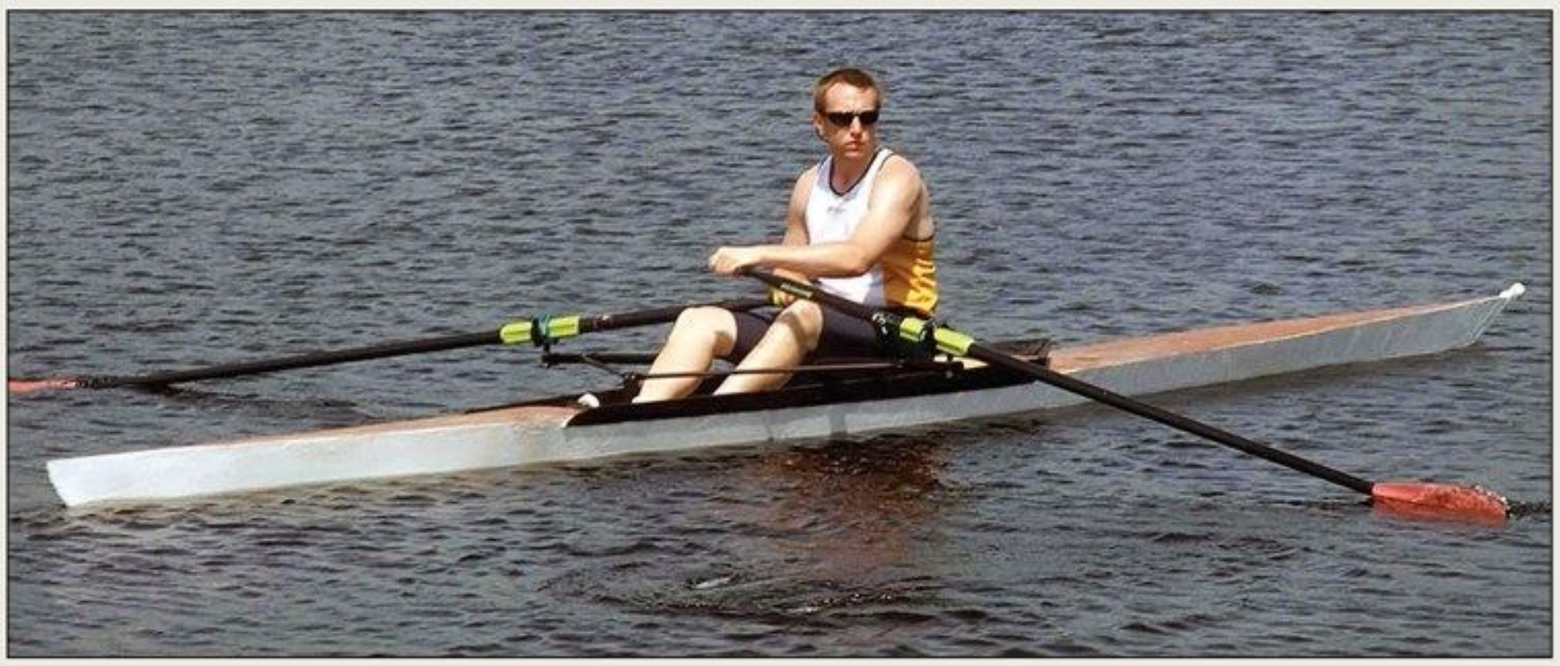
LINDA MEDCRAFT

Above—Using Richard Kolin's book, *Building Heidi*, Rich Medcraft built MERLIN in his garage over two years. MERLIN, 12′2″, is a lapstrake hull, white cedar planked with white oak frames, stem, and transom. She has a sliding gunter rig with a sprit boom. *Building Heidi* is available at The WoodenBoat Store (www.woodenboatstore.com) and other marine bookstores.

Right—Modifying his own 1990 design, Joe Thompson built this 80-lb Salt Pond Slipper rowing boat. He strip-planked her with western red cedar and Atlantic white cedar, and trimmed her with mahogany, black walnut, red and white oak, yellow cedar, and teak. Joe also designed the rowing unit for this 18′ × 3′ beauty. Completed boats are available from www.saltpondrowing.com.



JOE THOMPSON



DAVID STONE

Left—Alex Stone enjoys this 20′6″ Oxford Shell, SOPHIA M. STONE, from Chesapeake Light Craft on the Charles River in Boston. Alex's father, David Stone, built the shell in his backyard, using stitch-and-glue methods with no fastenings. The hull weighs just 39 lbs. David cut up two basketball hoops to create SOPHIA's cartop rack. Plans and kits are available from www.clcboats.com.

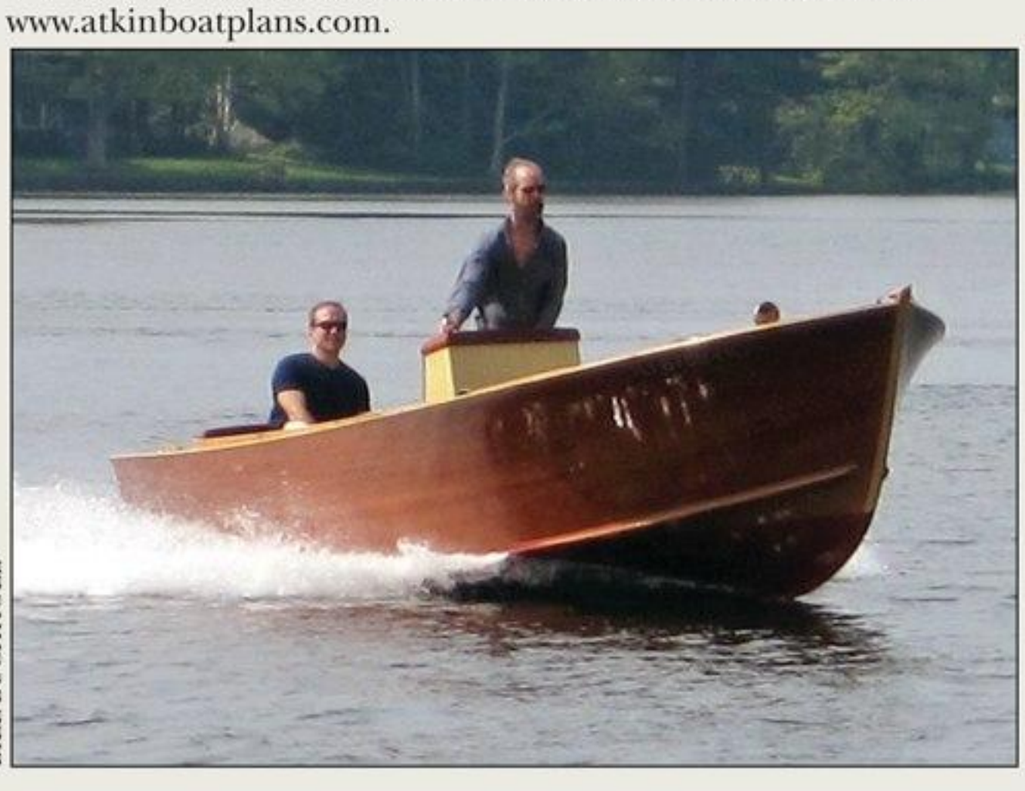
Below—Sophia Harry, seated here, helped her father David Harry to build ROSE, an 11′ wherry designed by Robert H. Baker (www.by-the-sea.com/bakerboatworks), who took the lines off a wherry built in Oregon in 1925. Sophia and David used sugar pine, western red cedar, redwood, black oak, and Douglas-fir in the strip planking. They row ROSE on Lake Alamanor in California.

DAVID HARRY

JOHN C. HARRIS

Above—A notable entrant in our recent Design Challenge (see WB No. 223), MADNESS is a 30′ 8″ proa designed and built by John C. Harris. The mast is dead center because the outrigger is always kept to windward, meaning the bow and stern are interchangeable. John used 6mm okoume plywood on this stitch-and-glue hull. Plans are available at www.clcboats.com.

Below—Bill Buchholz of Apache Boatworks in Camden, Maine, just launched this Atkin-designed Pollard 19 runabout. He planked her with edge-glued sipo mahogany, covered with 4-oz 'glass and epoxy. Straying from Atkin's edict to build as drawn, Buchholz added a stern deck and center console to this 19′6″ × 7′8″ hull, and eliminated the cabin. Plans are available from www.atkinboatplans.com.



BILL BUCHHOLZ

DAVE HAWKINS

Above—Following the plans of Gil Smith's 1895 Pauline design, Bill Stanard of Stanard Boat Works recently launched CLEMENTINE (21′6″ × 7′2″) in Key Largo, Florida. She is strip-built of recycled Alaska yellow cedar covered in 'glass and epoxy; her ply decks are sheathed in Dynel. Her spars came from a 1950s Winthrop Warner catboat. See more pictures at www.stanardboatworks.com. Plans are available from Mystic Seaport.

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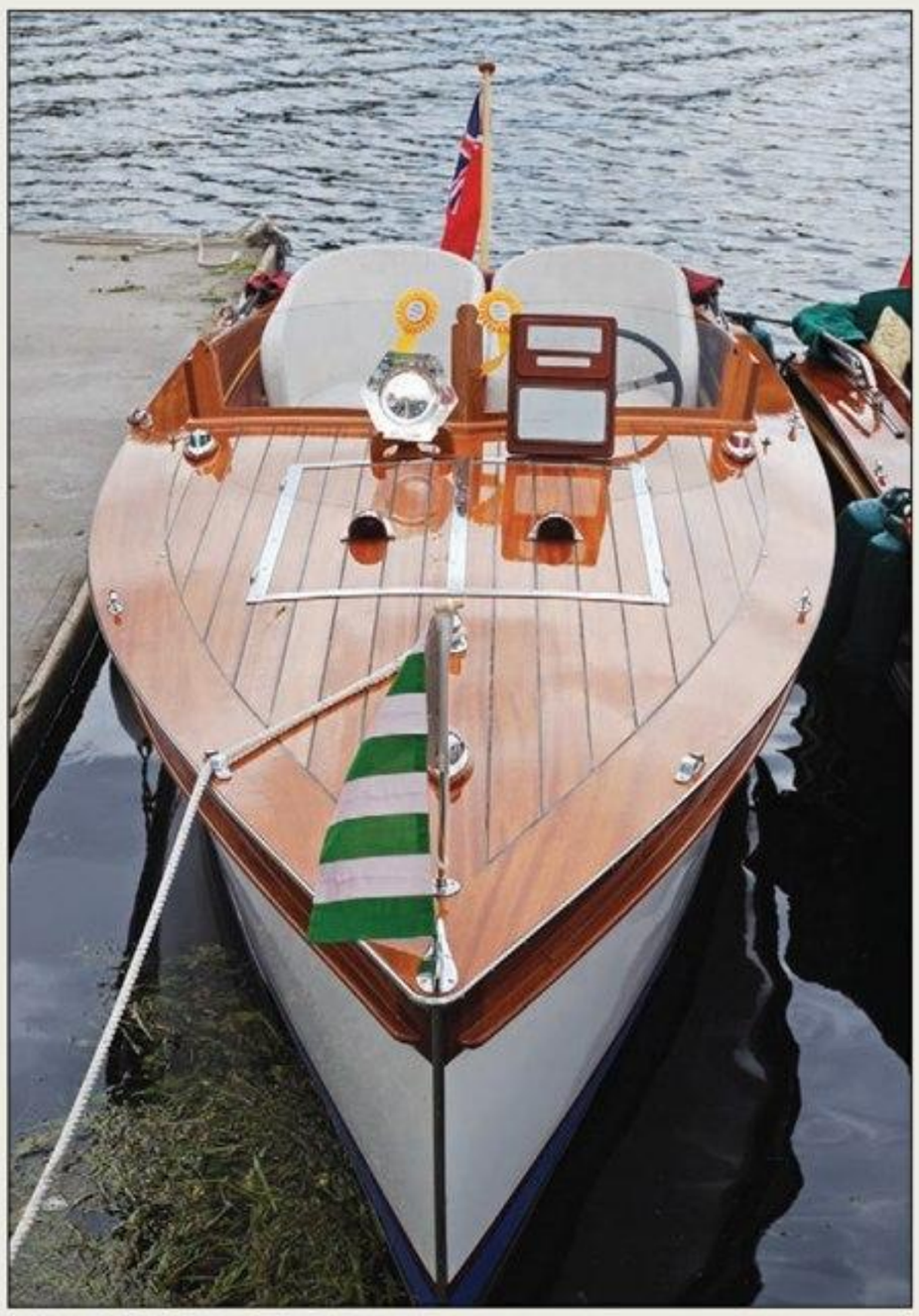
...AND RELAUNCHINGS

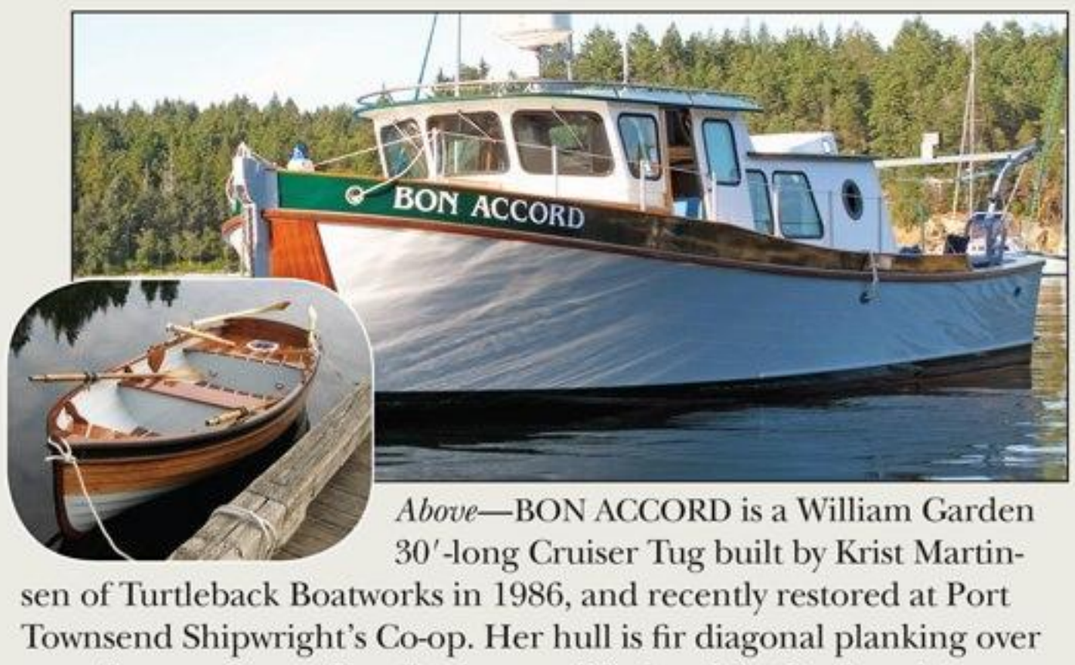
ALAN HOUGHTON

Above—In 2008, the New Zealand Traditional Boatbuilding School took over the restoration of CORONA, a 1936 Charles Collings–designed Mullet-class gaff cutter. Trustees Robert Brooke and Ian McRobie led volunteers through hundreds of hours of work on CORONA's reconstruction. The school is grateful to the volunteers and donors who helped lead to CORONA's relaunching in March 2011.



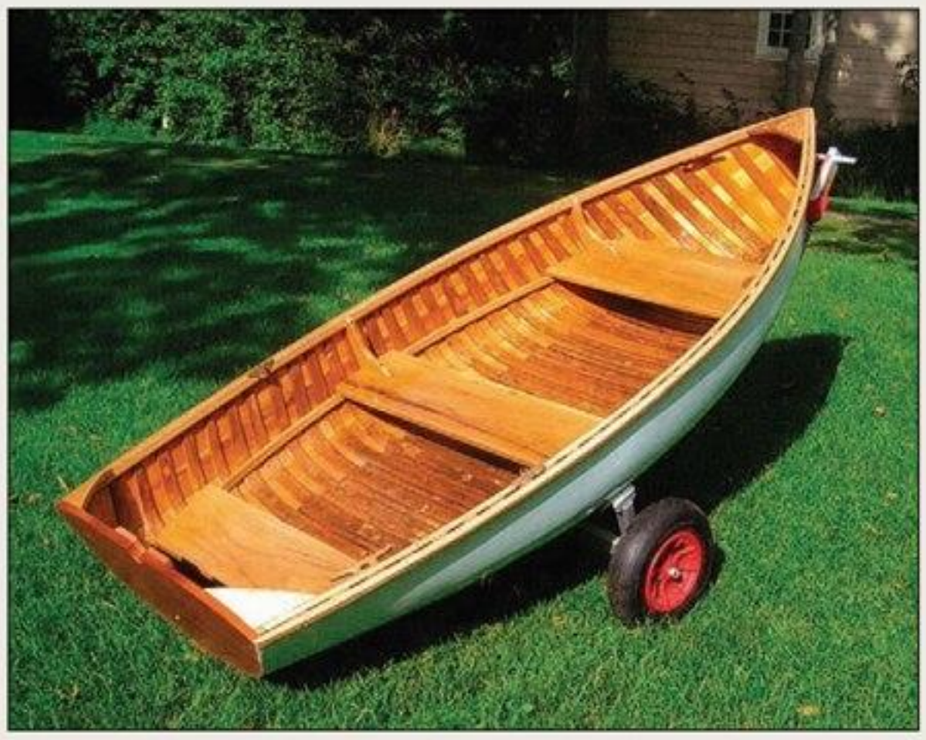
GILES BEDFORD

Above—SHUKEE, a 1959, 20′ × 5′ Andrews Greyhound Slipper launch, has been recently restored. When owner Giles Bedford brought her to Stanley & Thomas of Windsor, England, for repair, she was a "damp pile of lumber," according to Mark Stanley. The team of Stanley & Thomas replaced her bottom planks and decking, repaired her frames, and restored her Morris Vedette gasoline engine. SHUKEE won two trophies at the 2011 Thames Traditional Boat Rally.



WILLIAM BODE

Above—BON ACCORD is a William Garden 30′-long Cruiser Tug built by Krist Martinsen of Turtleback Boatworks in 1986, and recently restored at Port Townsend Shipwright's Co-op. Her hull is fir diagonal planking over sawn frames. Owner Ken Roelen modified an Iain Oughtred Acorn design for use as tender, BON ACORN, by installing flotation and airtight lockers, and two rowing stations, one forward-facing rower and one traditional—as he calls it, a very sociable way to row.



RICHARD O'CONNOR

Above—Richard O'Conner found a derelict rowboat (9′6″ LOA, 3′8″ beam) and undertook a two-year restoration. With help from his wife and Lew Merkle, he replaced 80 percent of the boat's structure. He clench-nailed ¼″ white cedar planking onto white cedar ribs, much like a canoe. The transom is mahogany. Richard christened the boat BONNIE and launched her last summer.

Hints for taking good photos of your boat:

1. Please shoot to the highest resolution and largest size possible. Send no more than five unretouched images on a CD, and include rough prints of all images. We also accept transparencies and high-quality prints.
2. Clean the boat. Stow fenders and extraneous gear below. Properly ship or stow oars, and give the sails a good harbor furl if you're at anchor.
3. Schedule the photo session for early, or late, in the day to take advantage of low-angle sunlight. Avoid shooting at high noon and on overcast days.
4. Be certain that the horizon appears level in your viewfinder.
5. Keep the background simple and/or scenic. On a flat page, objects in the middle distance can appear to become part of your boat. Take care that it doesn't sprout trees, flagpoles, smokestacks, or additional masts and crew members.
6. Take many photos, and send us several. Include some action shots and some of the boat at rest. For a few of the pictures, turn the camera on its side to create a vertical format.

We enjoy learning of your work—it affirms the vitality of the wooden boat community. Unfortunately, a lack of space prevents our publishing all the material submitted. If you wish to have your photos returned, please include appropriate postage.

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Ready-built Herreshoff 12½

Very nice reproduction, simple to rig.
LOA: 16″ #620-049 **$159.00**

Utility #620-084

Ready-built Chris Craft 1940s Barrelback

391 of this style were produced from 1939-1942. The Custom Runabout featured folding V-windshields and the wood was varnished over the Chris Craft red mahogany stained sides.
LOA: 22½″ #620-075 **$239.00**

Mini Runabouts

Beautifully built, they're approximately 12¾″ long (ideal display size) and come just like this right out of the box. Choose from Chris Craft Utility, a Garwood, and a Barrelback.
$85.00 each

Garwood #620-085

Barrelback #620-086

Ready-built Chris Craft Utility

16-footer, one of the most popular ever produced.
LOA: 21″ #620-067
$219.00

Ready-built 1934 Chris Craft Triple Cockpit

27-footer, could reach speeds of 45mph in the early 1930s.
LOA: 27″ #620-076 **$289.00**

Ready-built Bluenose

Built in 1921 in Lunenburg, Nova Scotia as a fishing schooner, this boat was much beloved, not only for her prized catches, but also for her racing prowess.
LOA: 34″ Beam: 5¼″ Height: 30″
#620-052 **$259.00**

Ready-built Chris Craft 1929 Commuter

38-footer, designed to carry 20 passengers in comfort and style. She was the first Chris Craft to have berths, and sleep four. LOA: 29½″
#620-078 **$399.00**

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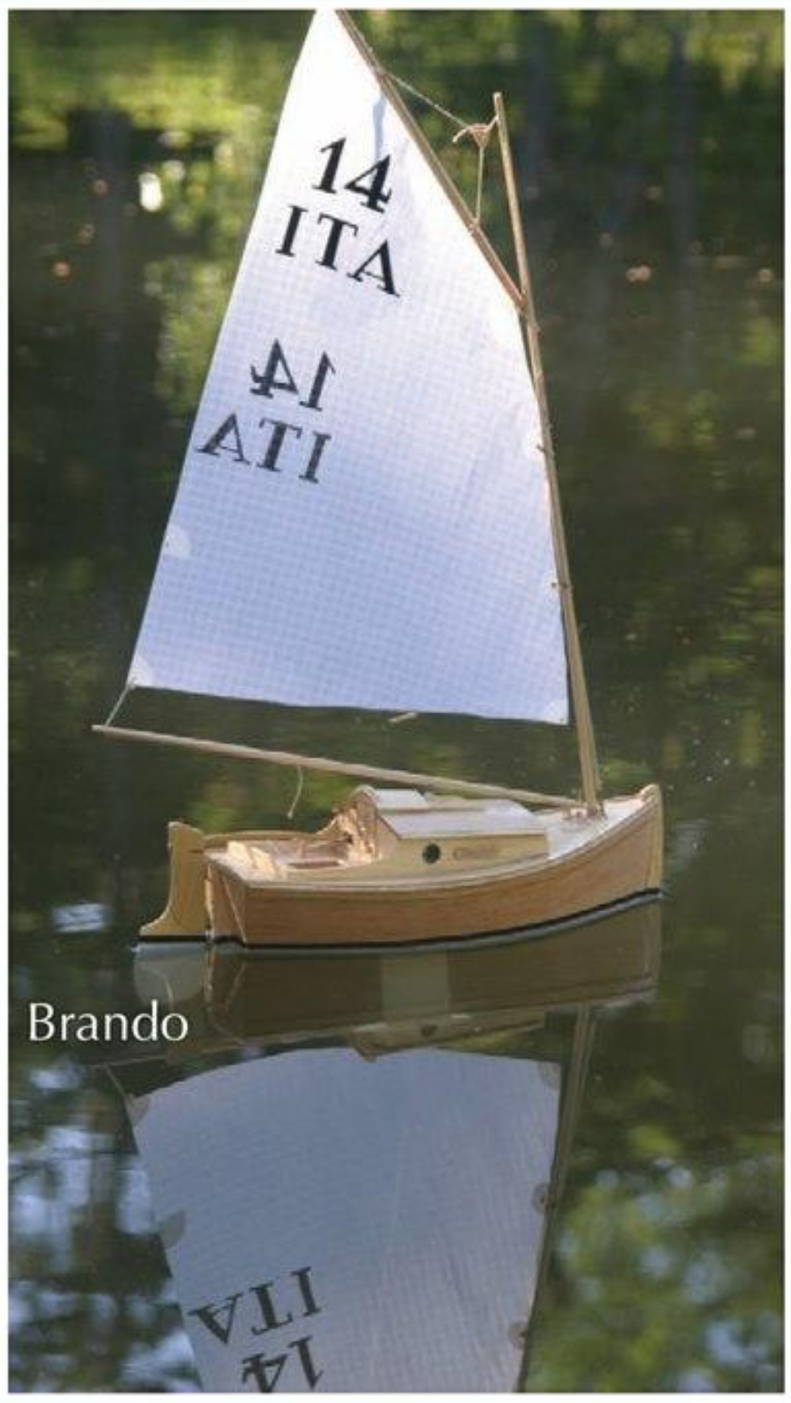


Gaff-rigged Catboat: *Brando* Footy Plans

The "Footy" class is a model racing class, for boats which fit within a 12″ x 6″ box (see full specs on our Site). We think you'll find this design completely irresistable. Created by naval architect Flavio Faloci of Genova, Italy, *Brando* includes 12 pages of plans, dozens of building photos, and complies with Footy class rules for RC (Radio Control) use.
#490-008 **$30.00**

Footy Model Parts

If you're a "scratch" builder, working from plans for either the *Brando* or *Presto* Footy models, or from your own handsome design, we have some model parts to help with the building process:
Keel Bulb (shown) #621-001 **$4.75**
Sail Cloth, 24″x30″ #621-002 **$4.95**
Sail Tape 2″x20″ #621-003 **$1.00**
Spars: 1/4″x1/4″x24″ #621-004 **$1.95**
Spars: 3/8″x3/8″x24″ #621-005 **$3.75**

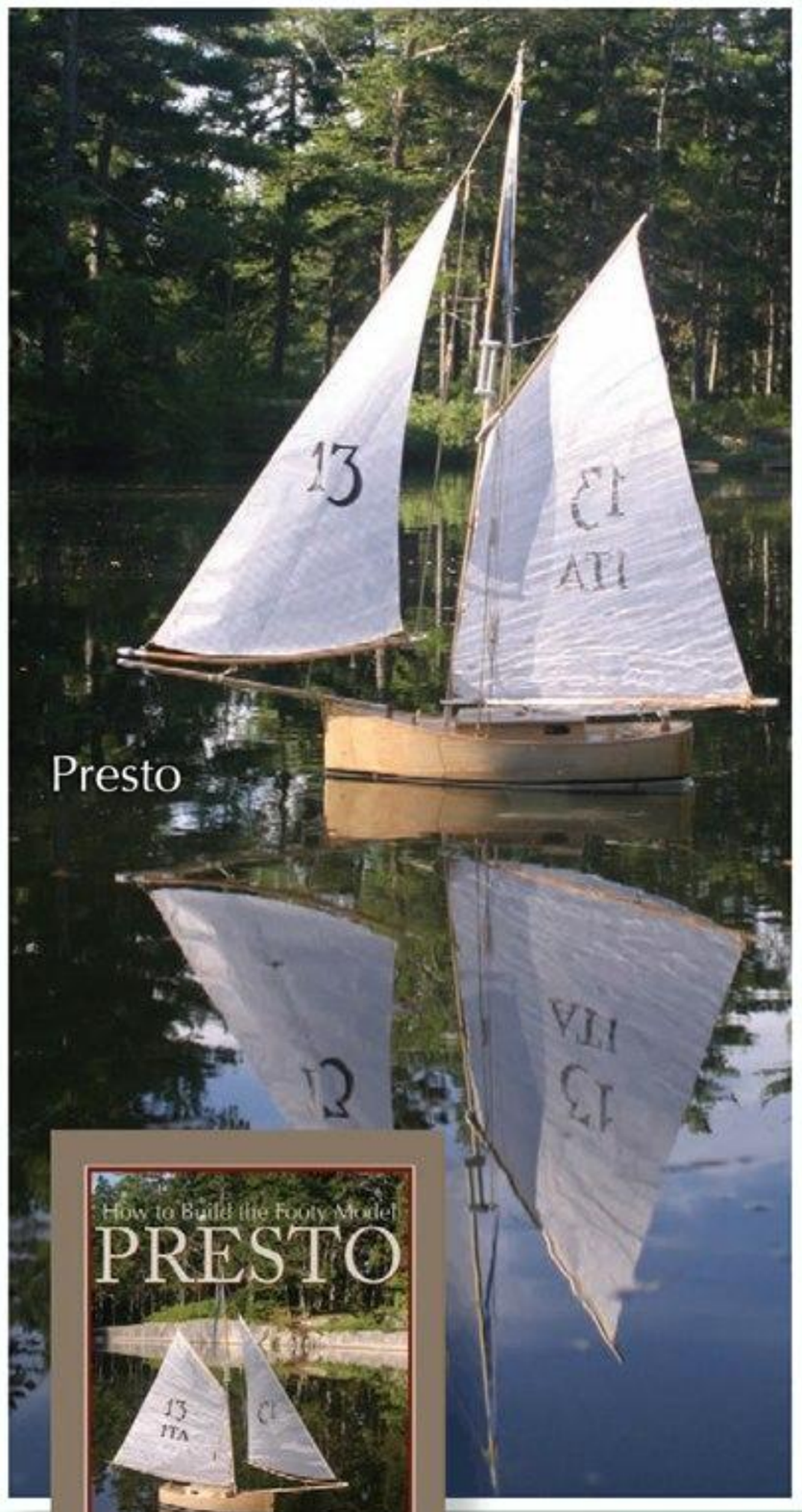
Flavio Faloci's *Presto* Footy

Presto is a gaff-sloop with a solid wood hull made of balsa for easy carving/ shaping, strength and light weight. Plus she's set-up for radio control. You have several options-build fr om scratch with the plans only, get the book for step-by-step instructions (and reduced-scale plans) or get the kit, which includes all parts, pieces (except radio control) sail cloth, rigging, keel bulb, as well as full-sized plans, and the how-to book. The model does comply with Footy Class rules even though she's longer than a foot. Presto fits in the 12″ x 6″ box on the diagonal- Flavio is competitive.
Hull Length: 12-1/2″
Overall: 20″ Beam: 4″
Height: approx. 35″
Kit: #620-092 **$90.00**
Plans only: #490-009 **$25.00**
Book only: #325-151 **$19.95**

Regatta Racers

Four beautifully finished J-boats (models are about 12″ long) are attached to two arms, and race after each other with just the slightest hint of a breeze. Assembly is simple: slide the model onto the arm and pin with "cabin". Step masts with pre-sewn sails. Attach bolt/spacers to the cap. Smile. Pick-up a 4″x4″ post and one of those post-holder spikey things at your local lum-beryard or hardware store.
#620-083 **$200.00**

Regatta Racer Detail



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Beautiful Boats

Sub-titled *A Twentieth Anniversary Celebration,* this was a special newsstand edition, by WoodenBoat. It's a look-back at some of the prettiest boats covered. 160 pages, **$3.50**

Build a Boat

Kind of a pre-curser to the successful *Small Boats*. It features three boats: Martha's Tender, a strip canoe, and the Gloucester Gull dory. 148 pages, **$3.50**

Maritime Life & Traditions

This joint venture between Le Chasse Maree in France, and WoodenBoat in the US resulted in *Maritime Life*, which was published for nine years. We have *all* 34 issues as digipubs. **$2.95**
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This special annual hits the newsstand in November, and sells-out quickly. Published since 2007 by WoodenBoat, it always features an awesome mix of wooden boats. **$3.50**

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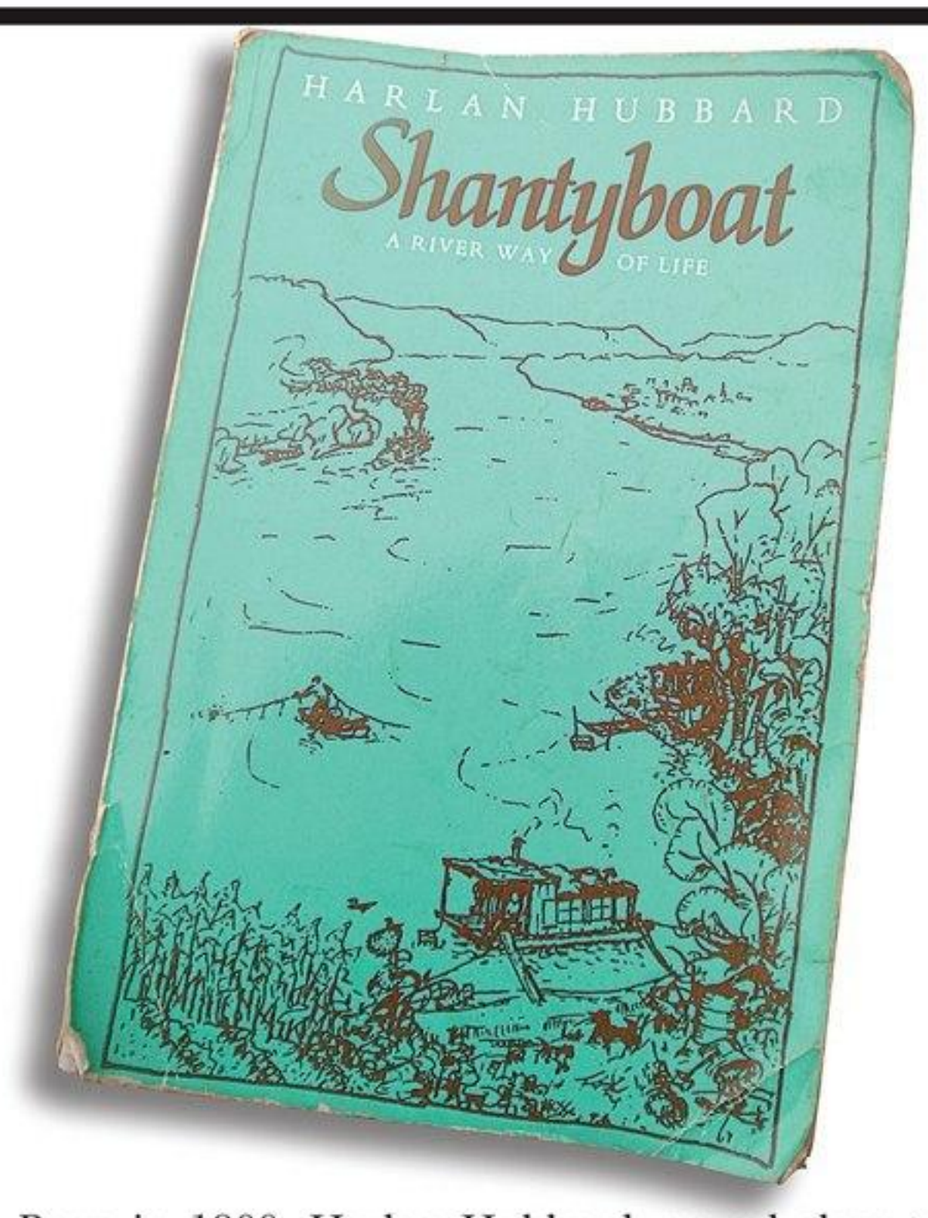
Shantyboat
A River Way of Life

***Shantyboat:* A River Way of Life**, by Harlan Hubbard. The University Press of Kentucky (1977), 663 South Limestone Street Lexington, KY 40508–4008. 352 pp., $22.00. *Available from the WoodenBoat Store, www.woodenboatstore.com.*

Reviewed by Harry Bryan

In the fall of 1944, Harlan and Anna Hubbard built a shantyboat (see page 58) on the shore of the Ohio River. This became their home for the next seven years as they drifted down the Ohio, then down the Mississippi into the bayous of Louisiana. The winter months of those years were spent drifting, while summers were spent making gardens and growing the food to sustain them over the next year's voyage.

Their boat was built well, but of salvaged materials. The year 1944 was, according to Hubbard, "a time of shortages, and all available lumber was being allotted to construction more essential than ours could claim to be." This statement is the closest hint we get of the turbulence the world was experiencing in that year. Not once in the chronicling of their adventure does Hubbard mention buying a newspaper or discussing the war with the friends made along the river. By refusing to even mention the strife that had engulfed much of the world, Hubbard makes a strong statement for the deliberate, self-sufficient lifestyle that he and Anna have chosen. In this he is much like Henry David Thoreau during the Civil War and Hubbard's contemporary, Scott Nearing, during World War I. Unlike the preaching style of Thoreau's and Nearing's writing, however, Hubbard merely describes the day-to-day flow of his life, allowing us to draw our own conclusion as to its value.



Born in 1900, Harlan Hubbard moved close to the Ohio River when he was 19. From that time on he dreamed of a drifting voyage, something that held a greater attraction for him than seeking success as defined by others. In 1943 he met and married Anna whom he soon introduced to the river. Her enthusiasm for his dreams, according to Hubbard's biographer, Wendell Berry, "gave a legitimacy to the plan that it had not had before. She gave a necessary permission." In Hubbard's words, "I had no theories to prove. I merely wanted to try living by my own hands, independent as far as possible from a system of division of labor in which the participant loses most of the pleasure of making and growing things for himself. I wanted to bring in my own fuel and smell its sweet smell as it burned on the hearth I had made. I wanted to grow my own food, catch it in the river, or forage after it. In short, I wanted to do as much as I could for myself, because I had already realized from partial experience the inexpressible joy of doing so."

Together the Hubbards worked on the boat while living in a makeshift hut on the riverbank, sliding

materials down the railroad embankment, trying to get the hull completed before the river's spring rise. They then moved aboard and "from the first, in contrast to the roughness and asperity of our environment, we found our shantyboat such a cheerful and snug place, and our enjoyment of living there so keen, that we felt we were celebrating a continued holiday, one about which the rest of the world did not know."

Living and voyaging on a major river system, especially in a heavy boat with no power beyond that supplied by oar and sweep, is very different from a cruise along the coast. Even tied to the bank before the trip started, they had to contend with a 60′ rise in the river level during the spring flood. As the water rose, they shifted lines higher in the tree branches or cut a path to haul the boat in to the next row of trees. Finally, the trees disappeared underwater and the boat was moored to the tracks of the flooded railroad. As the water level receded, they had to be even more careful to spar the boat off so that it would not ground out during the descent.

The first time I read this book, I was left with idyllic scenes of a slow, quiet pirouette as the boat drifted with the swirling current. While those times did exist, my recent reading left me in awe of the skills needed to drift safely. Here is an excerpt from the lower reaches of the Ohio: "Less than five miles downstream was Dam 52, the lock being across on the Illinois side. Five miles is a long way, but the river was a good three quarters of a mile wide, and under unfavorable conditions we might not have been able to cross to the other side before reaching the dam. Then one of our bad dreams—being carried over a dam—would come to pass."

The Mississippi, unlike the Ohio, had a fast current that set up whirlpools that could trap the boat, requiring a line rowed ashore or the assistance of a passing motorboat. After a particularly exhausting day, night came on before both Harlan and Anna, rowing with all their strength, were able to break free of the current, tie a line to a tree branch, and swing into a creek for a well-deserved rest. "It was a windy night, and shreds of white clouds sailed fast across the sky all pale in the moonlight. We lay awake listening to the moaning of the trees, the chirping of the frogs and the lashing current out in the river. It had been a good day after all. This is what we were on the river for—to feel the power of it, to see it in action, to be near to it with as little as possible between us and it, to know it as an elemental force stripped of names and associations. The hard work and aggravation, the unwieldy boat, stubborn as a mule, water like glue, all this was good, too. What true understanding of the river could one acquire by a fast trip in ease and comfort? And now, after such a day as this, it was good to be at rest sheltered where wind and current could not reach us."

Some books, such as Thoreau's *Walden,* or Nearing's *Living The Good Life,* have become a permanent part of my home library. Every so often I reread them, my life's intervening experience lending new insight to the author's words. *Shantyboat* is such a book, and as I return my dog-eared copy to the bookcase, I know that someday I will read it yet again and it will once more offer a fresh perspective for my own life.

Harry Bryan is a contributing editor for WoodenBoat. *His article on the design and construction of a shantyboat appears* *on page 58.*

The Mast Mate Ladder

Reviewed by Alex Nislick

When I recently needed a reliable system for climbing my mast to work aloft, I initially considered the tried-and-true bosun's chair. But I decided against it, for two reasons: (1) I sail solo on my L.F. Herreshoff–designed H-28 ketch, and (2) I do not have a halyard winch on either my main or mizzenmast. A bosun's chair requires a reliable person at the mast cranking a winch—and then lowering the worker back to the deck. The Mast Mate, which has been around for the past 26 years, allows for easy singlehanded operations aloft.

The Mast Mate is, essentially, a ladder built of webbing. It has alternating steps, and is hoisted aloft on the main halyard, with toggles or slides fed into or onto the sail's groove or track, to keep the ladder attached to the mast. When the worker arrives on station, he or she wraps a belt around both body and mast, allowing for hands-free work, like an electrical lineman. Gary Wheeler, the maker of the Mast Mate, sells this strap—a necessity for working safely. I added to my system a mountain climber's harness, which fits around my waist and thighs, and has loops for adding pouches for carrying tools. This harness, and a Wichard Safety Tether, constitute my safety system.

The Mast Mate does not include sail slides or toggles, as it would be too much for Mr. Wheeler to stock the variety found on various boats. He recommends getting your particular type from a local sailmaker; Sailrite, the purveyor of sailmaking kits and supplies, also sells a variety of slides and toggles. Mr. Wheeler does provide attachment clips to install the slides onto the ladder, and they are very easy to use. But he also suggests that if you do not want your ladder swinging from side to side, you should forgo these clips and sew on the slides the way a sailmaker would sew them onto your mainsail; sewing them keeps the ladder closer and tighter to the mast. After three trips up my masts—twice up the main and one up the mizzen—I've decided to sew on my slides.

Using the Mast Mate was a learning experience. My first trip up the mainmast was difficult, as I did not know

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what I was getting myself into. My legs were not sore (my daily gym workouts helped here), but my hands and wrists hurt from holding on tight while climbing. I later solved this problem by wearing my sailing gloves—and not holding on so tightly.

I'm happy with the Mast Mate, given my circumstances. A bosun's chair would be an easier and cheaper option, but it doesn't fit my solo scenario. In my experience, the Mast Mate has only two negatives: First, you must remove the sail from the mast before installing the ladder, which adds some labor to any project aloft. And second, the Mast Mate limits your outboard reach, making it difficult to work on spreader tips—which are easily accessed from a bosun's chair.

The Mast Mate rolls up easily and stores in the bag it arrives in. It is shipped with its steps folded up, and each step has to be manually folded down into its proper shape. It helps to roll the Mast Mate for storage in the opposite direction to that in which it arrives; then, when it's unrolled, the steps fall into their proper shapes.

Mr. Wheeler's customer service deserves mention here: He was very forthcoming in answering all my questions and worries about his product. The Mast Mate is a well-thought-out and sturdy product, and it will serve me well for years.

Alex Nislick is a retired woodworker and upholsterer, who spent 15 years attending sailing classes at WoodenBoat School. In 2008 he purchased SUMMER SONG, his Herreshoff H-28 ketch, which he sails out of Maine's Kittery Point Yacht Yard up and down the New England coast. He hopes to sell his house this year and live aboard in the near future.

The price of the Mast Mate ladder ranges from $255 for a 27' model, to $410 for a 50' model. For more information, and to order, contact Mast Mate, 21 Ocean St., Rockland, ME 04841; 207–596–0495; www.mastmate.com.

NEW OR NOTEWORTHY

De-Oil-It

De-Oil-It is a chemical compound formulated to "break down all types of petroleum waste and return it back to the ecosystem." It does this by "disarming toxic molecules in oil, making them no longer bio available." Oily waste treated with De-Oil-It can, says the product's literature, be safely pumped overboard—though whether this is legal or not isn't clear. What is clear is that this is a very effective cleaner of oily bilges, fuel spills, and teak. While we didn't have the ability to suss out what was happening on the molecular level, we tried a bottle of De-Oil-It on a greasy bilge. It didn't take long to give that bilge a nice polish, and the resulting bilgewater did not have the oily, grimy feel one might expect after such an operation. There was simply no residue left in the bilge after applying this stuff and lightly scrubbing. In a further test, De-Oil-It turned a sludgy, oily pot of water into a relatively clear one—clear, that is, but with little blobs of purportedly harmless "dirt" floating in it. De-Oil-It is also touted as an effective teak cleaner. We tried it in that application, too, and it worked well. The product is sold in various concentrations for various purposes, including as a boat wash, an oil and fuel-spill cleaner, and even a driveway cleaner. *www.deoilit.com*

Un-hesive

Un-hesive is a water-based spray designed to break the bond of polyurethane adhesive—including (indeed, especially)—3M's legendary 5200, which is widely known as a permanent adhesive sealant; it sticks well, forever, the warning often goes. Apocryphal accounts say heat will break its bond, but that's never easy in practice. We tried some Un-hesive on test patches, spraying it around the perimeter of a few beads of 5200 cured on a cherry surface. After the prescribed 20 minutes of soaking, the bond had broken, and the 5200 peeled easily away. It remains to be seen how the stuff would work on wide faying surfaces—for example, a winch base; presumably, repeated applications would do the job. This appears to be a promising product for cleaning cured 5200 out of, say, a garboard seam. Another product, Debond, has been on the market for years for the same application; its chemistry appears to be rather different, as it's flammable, whereas Un-hesive is not. *www.un-hesive.com*

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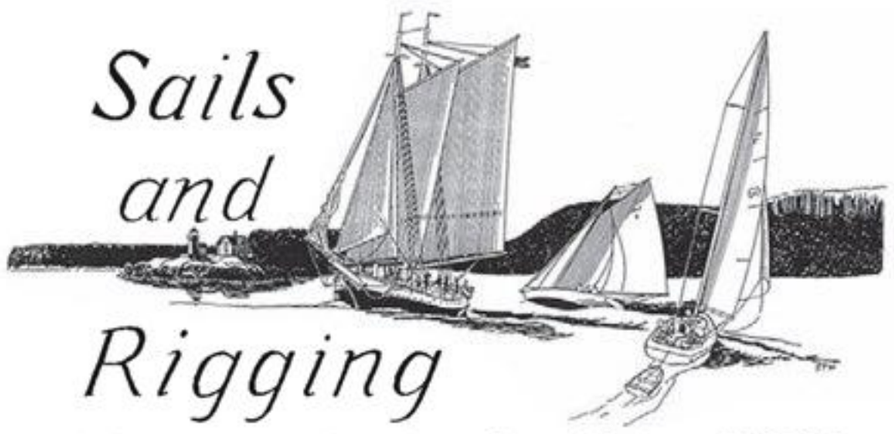

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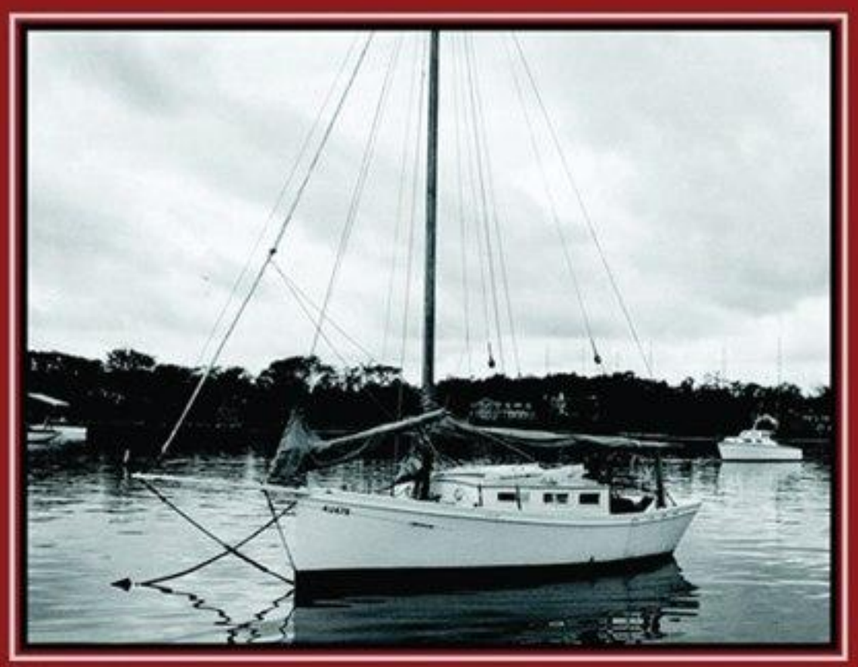

New Foreword by Mike O'Brien

Practical Small Boat Designs, by John Atkin. Published by WoodenBoat Books, P.O. Box 78, Brooklin, ME 04616, www.woodenboatstore.com. 176 pp., softcover, $21.95. ISBN: 978–1–934982–05–1. *Out of print for several years, this new reprint includes a foreword by Mike O'Brien, boat design editor for* WoodenBoat *and publisher of* Boat Design Quarterly. *This collection of John and Billy Atkin's most successful designs includes a handful of dinghies under 10', several flat-bottomed skiffs, the handsome Ninigret, a 22' V-bottomed bassboat, and the sleek Pollard 19, one of which can be seen in Launchings, page 94. You'll find a wide variety of sailboats, too, including the tiny Handy Andy (an 8' round-bottomed dinghy), the 14' daysailer Willy Winship, the 19' V-bottomed knockabout Liza Jane, and the 22'5" schooner FLORENCE OAKLAND.*

America's Privateer, by J. Dennis Robinson. Published by Lynx Educational Foundation, 509 29th St., Newport Beach, CA 92663, www.privateerlynx.com. 168 pp., hardcover, $34.95. ISBN: 978–0–7868–8644–7. *Plenty*

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of images are included in this detailed historic account of the original LYNX, a privateer during the War of 1812, combined with the tale of the new LYNX, launched in 2001, and her educational mission.

Thoreau's Maine Woods, photography by Dan Tobyne. Published by Down East Books, P.O. Box 79, Camden, ME 04843, www.downeast.com. 128 pp., hardcover, $35. ISBN: 978–0–89272–814–5. *Henry David Thoreau made three trips to Maine in the mid-19th century and wrote about them in his book,* The Maine Woods*; Dan Tobyne's photographs accompany Thoreau's words in this beautiful book that will make you want to wander in the woods.*

Voyages: To the New World and Beyond, by Gordon Miller. Published by University of Washington Press, P.O. Box 50096, Seattle, WA 98145-5096. 200 pp., hardcover, $55. ISBN: 978–0–295–99115–3. *Nearly 100 of the author's paintings illustrate this history of exploration in sailing ships from ancient times to the last century; the appendix includes plans of several historical vessels.*

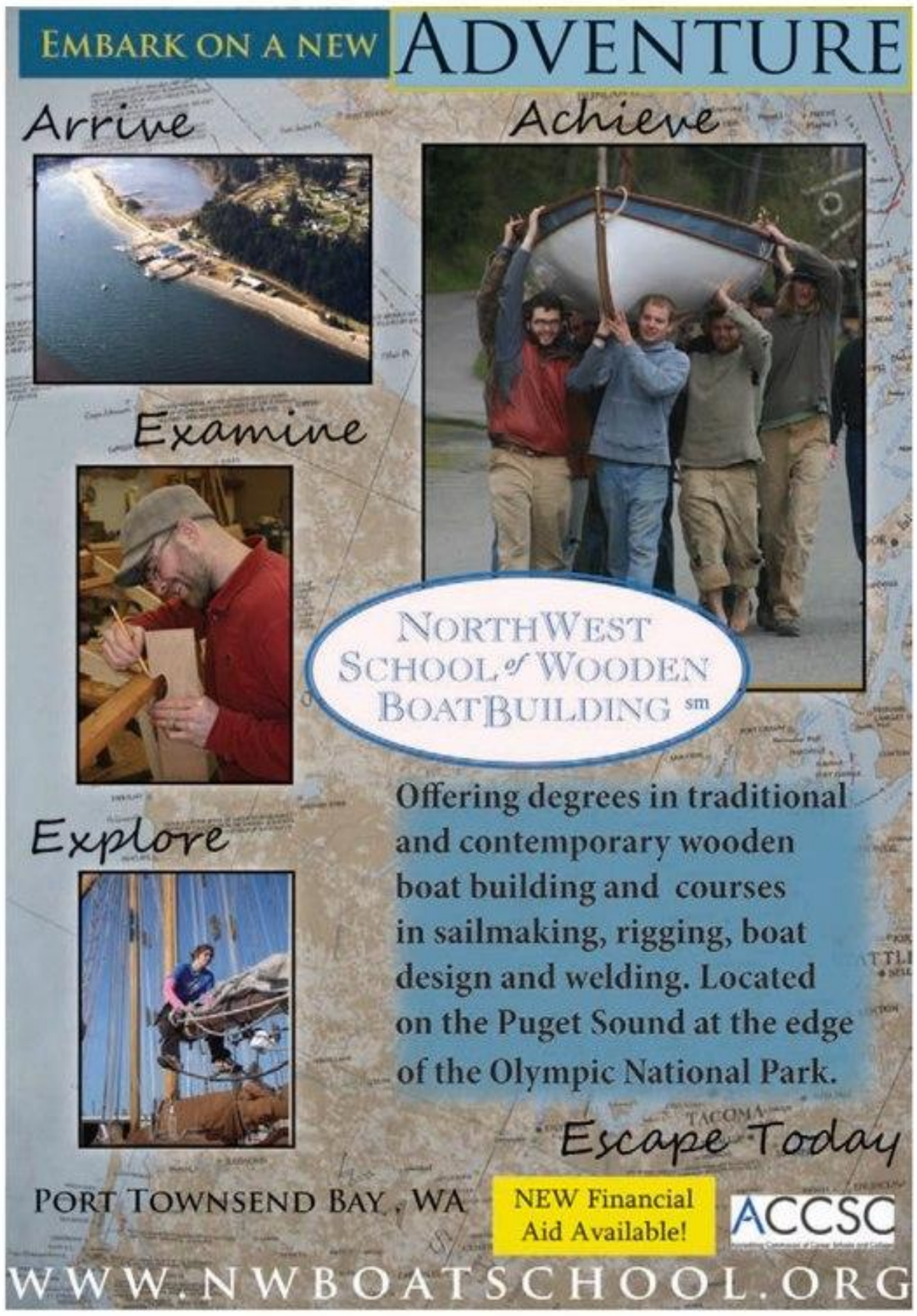
West Coast Wrecks & Other Maritime Tales, by Rick James. Raincoast Chronicles, volume 21. Published by Harbour Publishing, P.O. Box 219, Madeira Park, BC, V0N 2H0, Canada. 128 pp., paperback, $24.95. ISBN: 978–1–55017–545–9. *Recounts the stories of several significant shipwrecks along the coast of British Columbia; contain maps and many historic photographs.*

The Mountain of Gold: The Continuing Adventures of Gentleman Captain Matthew Quinton, by J.D. Davies. Published by Houghton Mifflin Harcourt, 215 Park Ave. South, New York, NY 10003. 360 pp., hardcover, $25. ISBN: 978–0–547–58102–6. *This sequel to* Gentleman Captain *is a historic novel of tall sailing ships, pirates, and gold; based in part of accounts of actual 17th-century explorations of Africa.*

The Riddle of the RAVEN, by Jan de Groot. Published by Sono Nis Press, a division of Morriss Publishing, P.O. Box 160, Winlaw, BC, V0G 2J0, Canada. 200 pp., paperback, $15.95. ISBN: 978–1–55039–183–1. *The author purchased a 140' gaff-rigged schooner to use as part of a sailing school, and is beset by a number of unusual occurrences attributed to the ghost of the first owner.*

I Loved This Work…I Have Been Delightfully Busy, by John T. Crowell. Published by Penobscot Books, a division of Penobscot Bay Press, P.O. Box 36, Stonington, ME 04681. 164 pp., paperback, $49.95. ISBN 978–0–941238–07–6. *An autobiography of a mariner who spent over 50 years at sea including several trips to the Arctic and Antarctic; includes a DVD of Jack Crowell and movie footage of the GERTRUDE L. THEBAUD aground in Baffin Bay on a 1937 exploration voyage.*

*Available from The WoodenBoat Store, www.woodenboatstore.com.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CALENDAR OF EVENTS

Compiled by Robin Jettinghoff

DAVE MORTON

These are just a few of the models on display at last year's ship model show presented by the USS CONSTITUTION Model Shipwright's Guild and held at the USS CONSTITUTION Museum in the Boston Navy Yard, Boston, Massachusetts. Models are on display this year from February 4 to March 24.

EAST

January

14–15 CYA Change of Watch
Mystic, Connecticut
An annual national meeting for the Classic Yacht Association, held this year at historic Mystic Seaport. *Event information, Ted Crosby, 860–575–5539. Classic Yacht Association, 2701 Corabel Ln., No. 28, Sacramento, CA 95821; 916–869–9141; www.classicyacht.org.*

February

February 4–March 24
Ship Model Show
Boston, Massachusetts
Held at the USS CONSTITUTION Museum at Boston Navy Yard. *Event information, USS Constitution Museum, 617–426–1812, or visit www.ussconstitutionmuseum.org. USS CONSTITUTION Model Shipwright's Guild, P.O. Box 291812, Boston, MA 02129.*

10–12 Cape Cod Boat Builders Show
Hyannis, Massachusetts
Boats, displays, and boatbuilding demonstrations exhibit the skills of Cape Cod boatbuilders. *Cape Cod Marine Trades Association, P.O. Box 445, Harwich Port, MA 02646; 508–563–7136; www.boatcapecod.org.*

March

5 Small Reach Regatta Application Deadline
Lamone, Maine
Applications for boats interested in participating in the 2012 Small Reach Regatta will be accepted until March 5. The SRR will be July 18–22 at Lamoine State Park. *Event information and application forms are available at www.smallreachregatta.org. Tom Jackson, P.O. Box 96, Brooklin, ME 04616.*

CENTRAL

February

25 Chicago Maritime Festival
Chicago, Illinois
Lectures, seminars, demonstrations, exhibits and workshops to celebrate the city's maritime community. *Chicago Maritime Society, P.O. Box 56394, Chicago, IL 60656; 773–576–7245; www.chicagomaritimefestival.org.*

25 Heartland Classics Restoration Workshop
Langley, Oklahoma
At Howard Classic Boats. Speakers will cover a wide variety of subjects, from annual maintenance to complete restoration. *Event information, Dan Diehl, dan@diehlaero.com, 918–230–4508. Heartland Classics Chapter, Antique & Classic Boat Society, P.O. Box 339, Langley, OK 74350; www.heartland-classics.org.*

SOUTH

February

25 Washington's Birthday Regatta
Coconut Grove, Florida
On Biscayne Bay just off shore of The Barnacle State Park. Open to vessels of traditional design regardless of construction. Race starts at noon. *Contact the park for registration information. The Barnacle Historic State Park, 3485 Main Highway, Coconut Grove, FL 33133; 305–442–6866; www.floridastateparks.org/thebarnacle.*

WEST

February

18 Center for Wooden Boats Auction
Seattle, Washington
The center's 36th annual fundraising auction, *Steer by the Stars*, starts at 5 p.m. at the Seattle Design Center. *Event information, 206–382–2699. The Center for Wooden Boats, 1010 Valley St., Seattle, WA 98109; www.cwb.org.*

25 Shipwright's Regatta
Port Townsend, Washington
Held at the Northwest Maritime Center. Races for both racing and cruising classes of sailboats. *Event information, Piper Dunlap, piperdunlap@gmail.com. Sponsored by Wooden Boat Foundation & Northwest Maritime Center, 431 Water St., Port Townsend, WA 98368; 360–385–3628; www.nwmaritime.org.*

EUROPE & BEYOND

January

21–22 Wooden Boat Rally
Launceston, Tasmania, Australia
Thousands of visitors enjoyed the nearly 100 boats on display at last year's event. *Event information, Adam Park, +61–419–307–557, parkviewfarm@bigpond.com.au or Bruce Jessup, +61–418–135–662, bej9@bigpond.net.au, 2012 WoodenBoat Rally, P.O. Box 1505, Launceston, Tasmania, Australia; www.woodenboatrally.com.*

February

10–13 Kettering Wooden Boat Rally
Kettering, Tasmania, Australia
Sailboat racing, parade of motorboats, rowing events. Trophies will be presented, but no cash awards or sheep stations. Presented by the Kettering Yacht Club and the Wooden Boat Guild of Tasmania. *Event information, contact Jim Tayton, +61–6–674–051 or Roscoe Barnett, +61–62–271–720. Kettering Yacht Club, P.O. Box 280, Kettering, Tasmania 7155, Australia; www.kyc.yachting.org.au.*

11 Couta Boat Festival
Sorrento, Australia
This event for wooden boats, with raft up, local food, wine, music, and racing in the afternoon, is free and open to the public. Held at the Sorrento Sailing Couta Boat Club. *Event information, Philip Hall, manager@sscbc.com.au; sponsored by Sorrento Sailing Couta Boat Club, P.O. Box 138, 3154 Point Nepean Rd., Sorrento, VIC 3943, Australia; +61–03–5984–8200; www.sscbc.com.au.*

24–26 Boatfit
Bremen, Germany
Over 150 exhibitors, along with dozens of workshops on maintenance and care of boats. *Event information, Messe Bremen, WFB Wirtschaftsforderung Bremen, Findorffstrasse 101, 28215 Bremen, Germany; 49–0–421–3505–265; www.boatfit.de.*

March

3–4 Antique and Classic Boat Show
Lake Rotoiti, New Zealand
Held at St. Arnaud township, Lake Rotoiti, Nelson Lakes National Park, South Island. *Event information, Pete Rainey, P.O. Box 568, Nelson, New Zealand, 0064–3–545–6591, www.nzclassicboats.com.*

10–11 Wooden Boat Festival of Geelong
Victoria, Australia
Grand Parade of Boats, Cavalcade of Sail, the Corio Bay Couta Boat Passage Race and more. Sponsored by Whyte, Just and Moore Lawyers. *Event information, Bob Appleton, +61–03–5229–3705, or tempest@ncable.net.au. Sponsored by the Royal Geelong Yacht Club, 25 Eastern Beach, P.O. Box 156, Geelong, Victoria 3220, Australia; www.rgyc.com.au.*

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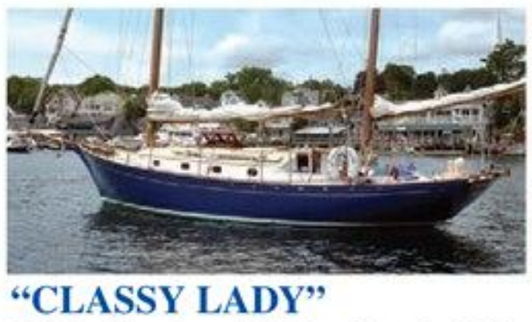
Built by Brooklin Boat Yard. Located: Brooklin, ME Asking $600,000

"GINGER"
2007, Ultimate Daysailer, 50′
Built by Brooklin Boat Yard. Located: Brooklin, ME Asking $499,000

"MERIDIAN"
1964, Huckins Out Islander, 56′
Complete restoration by BBY in 2010. Located: Brooklin, ME Asking $495,000



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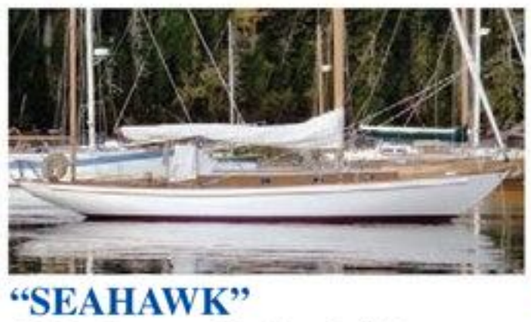

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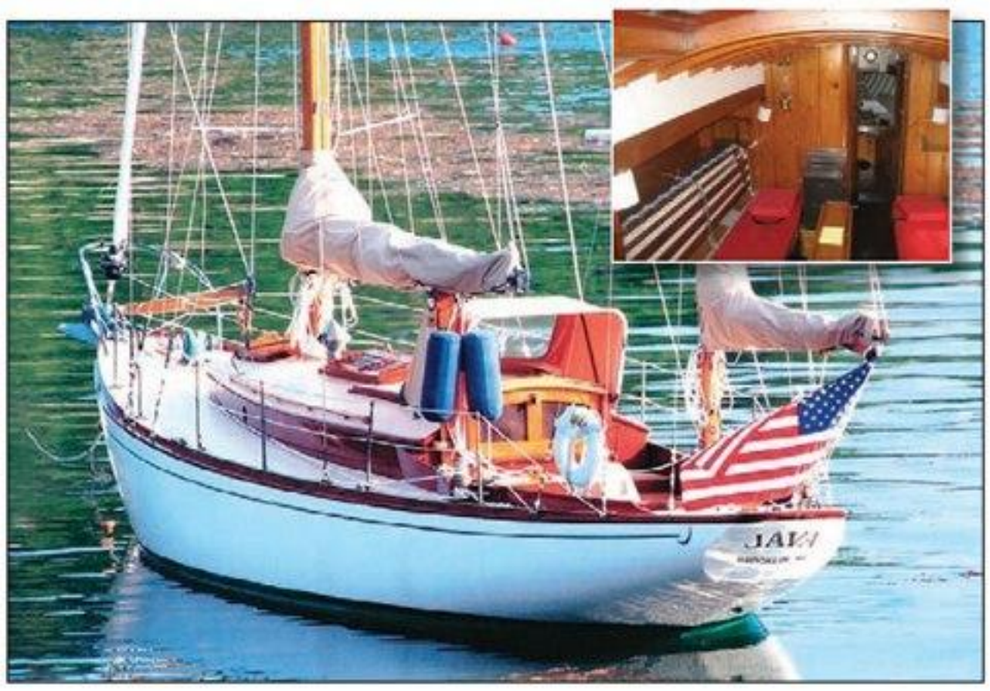

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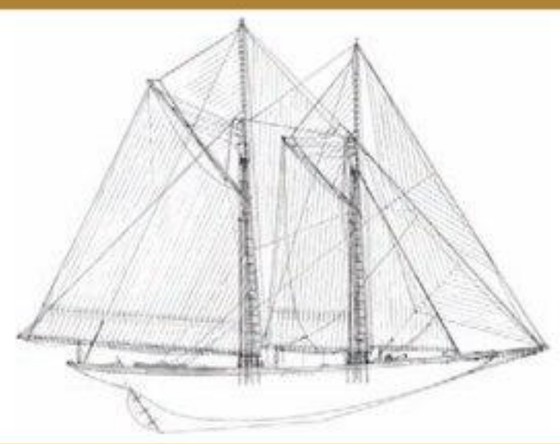

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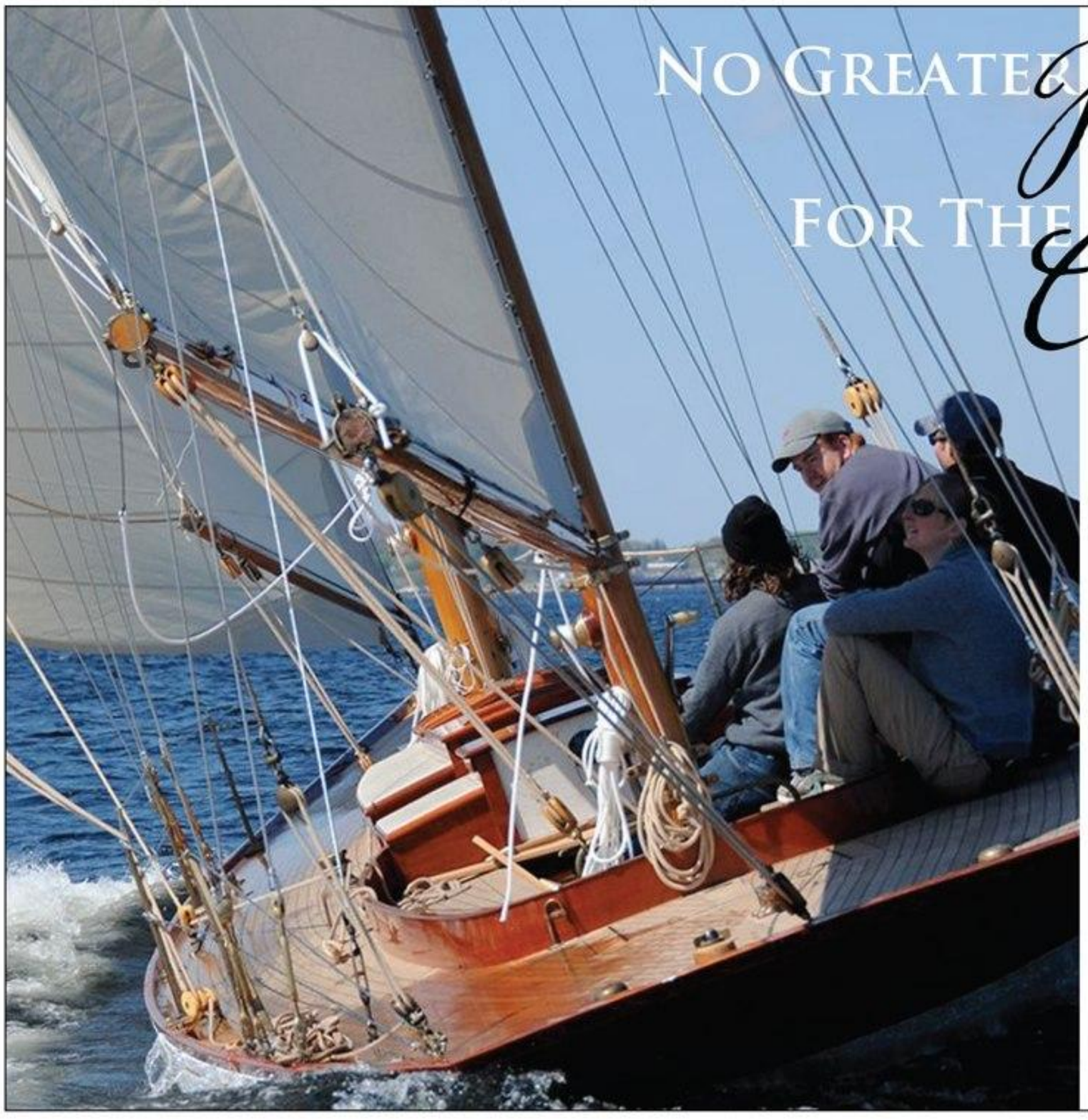

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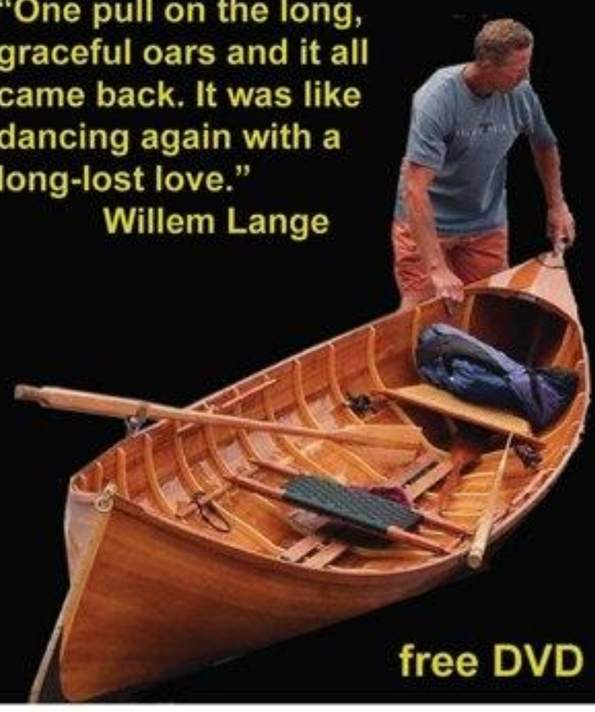

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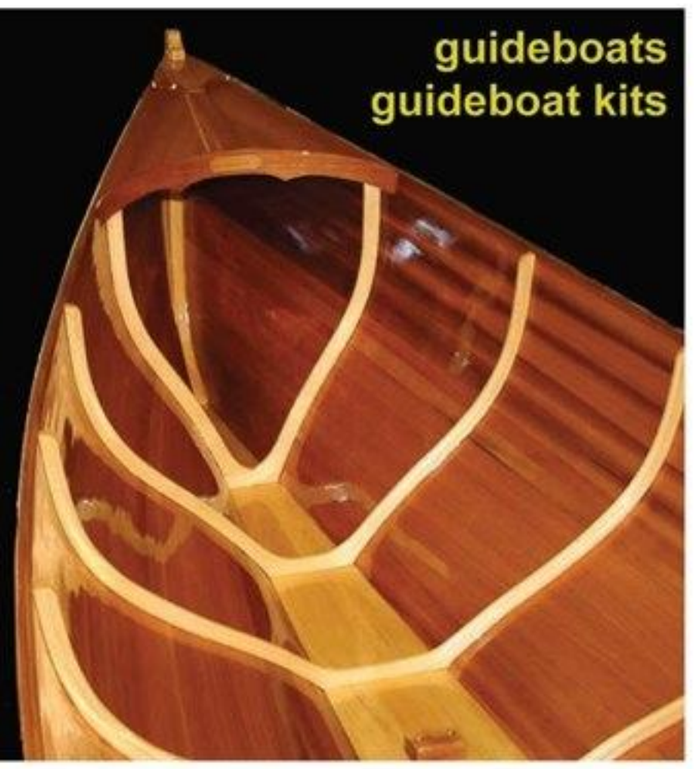

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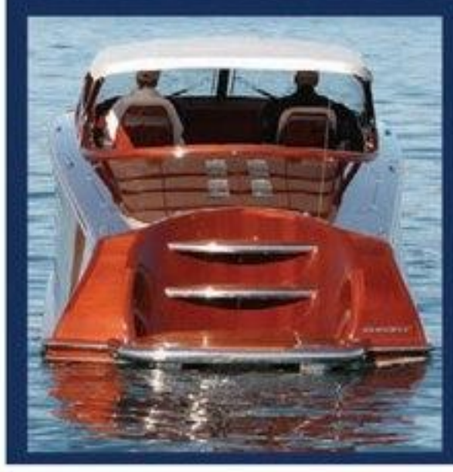

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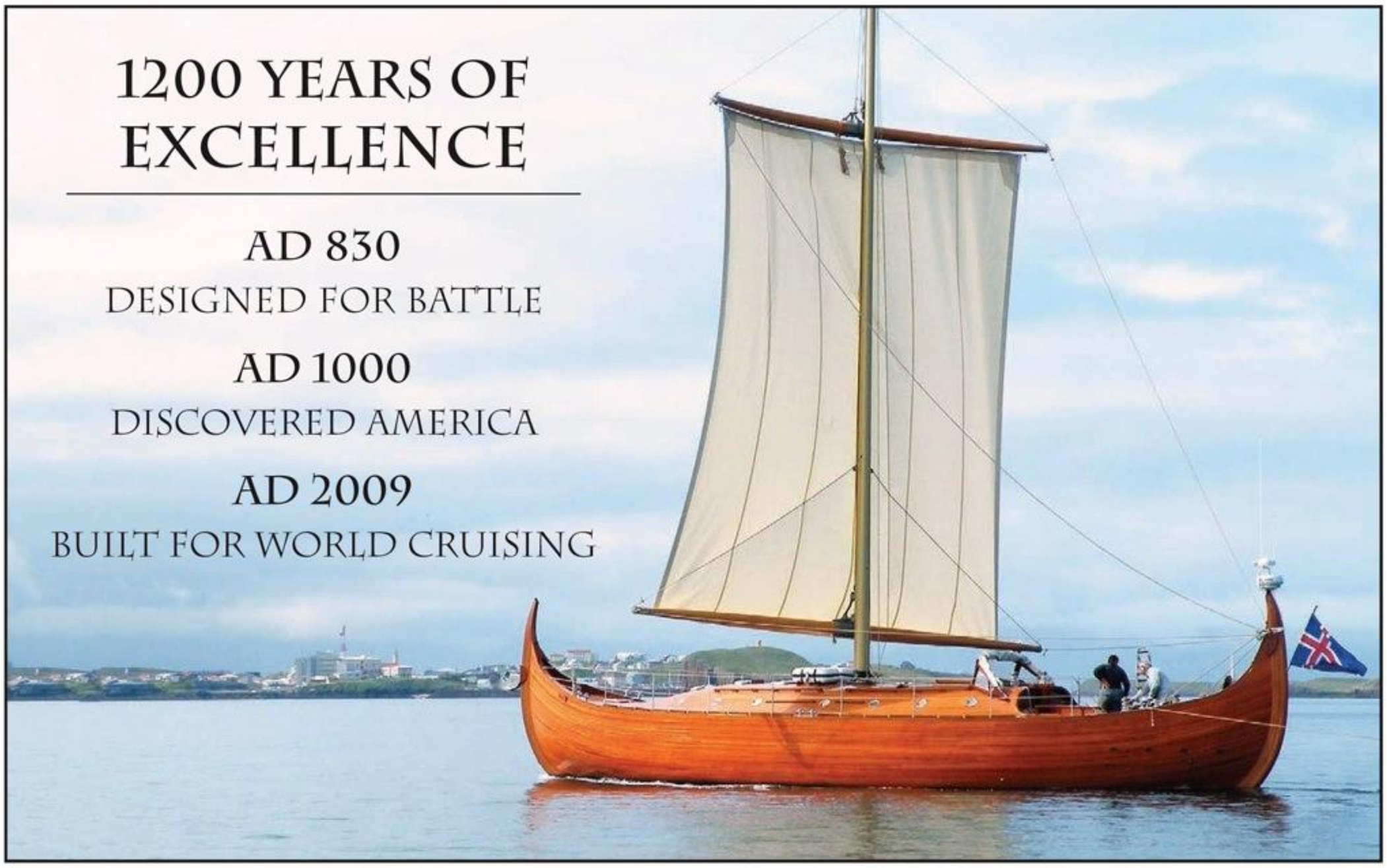

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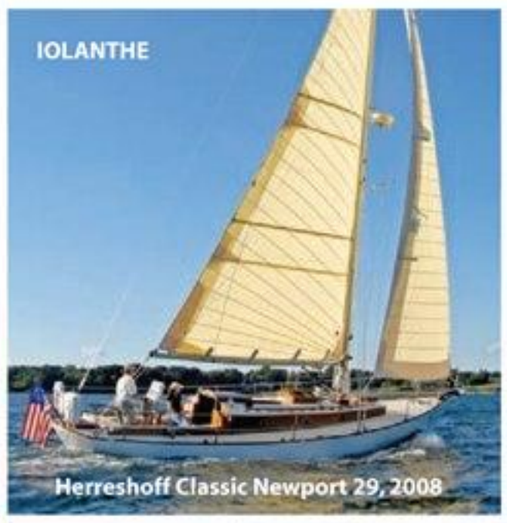

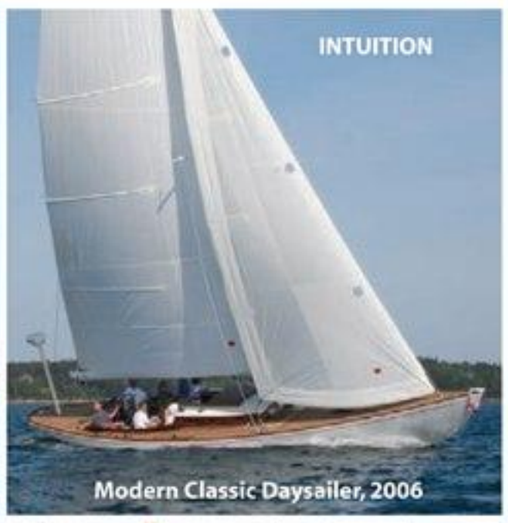

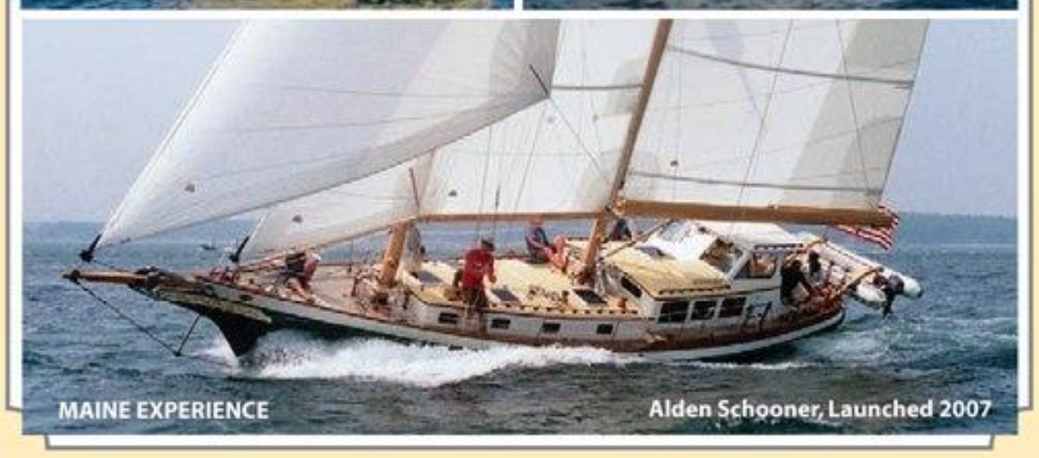

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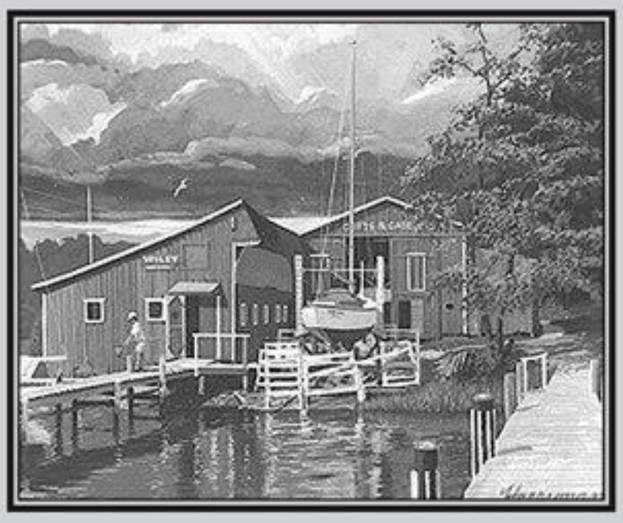

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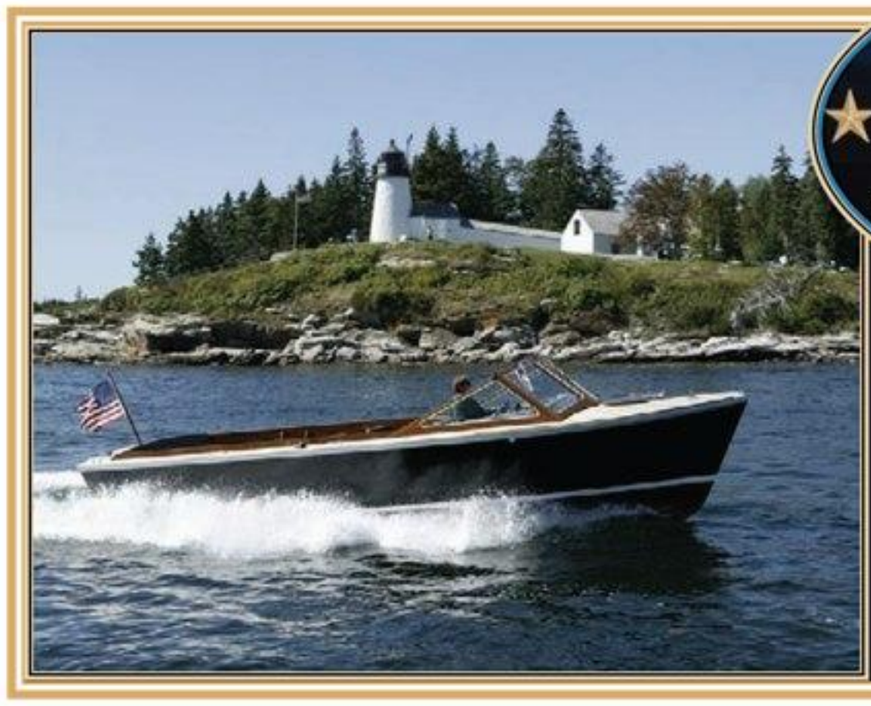

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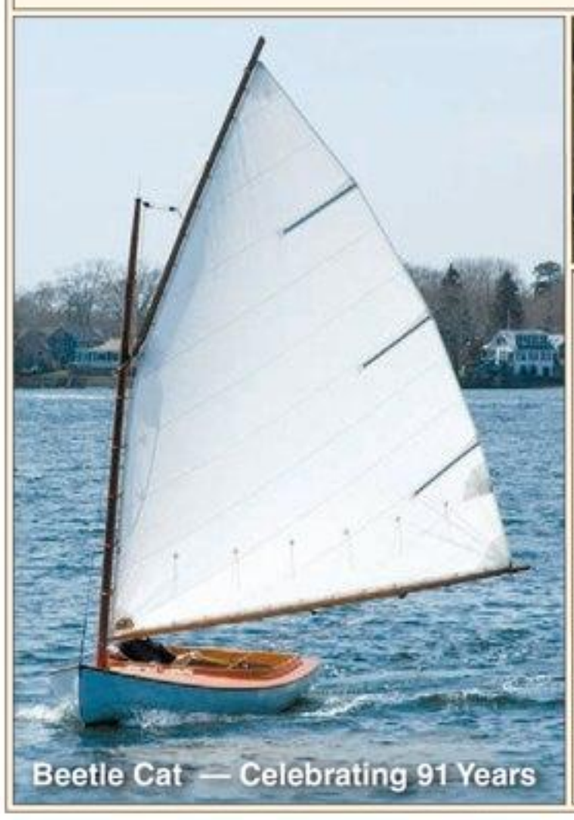

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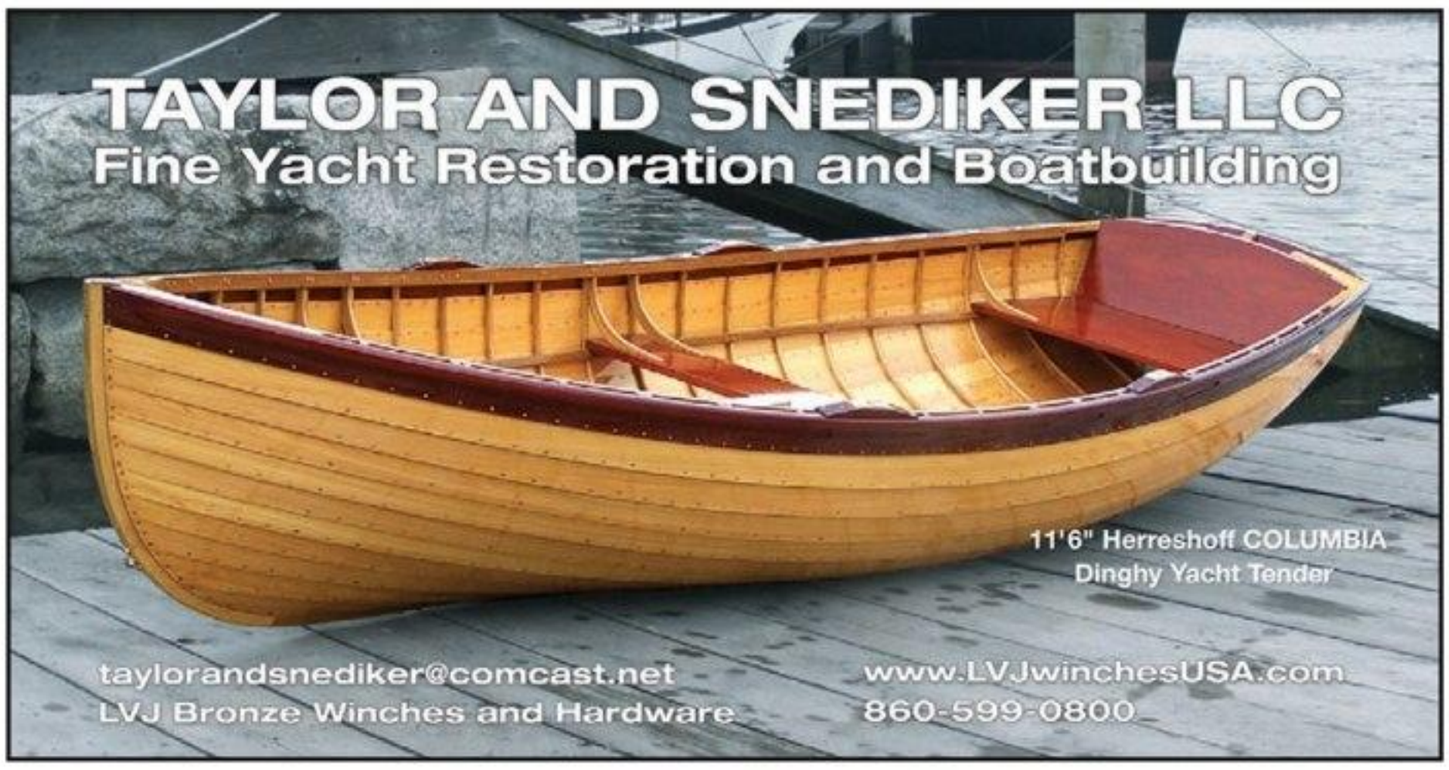

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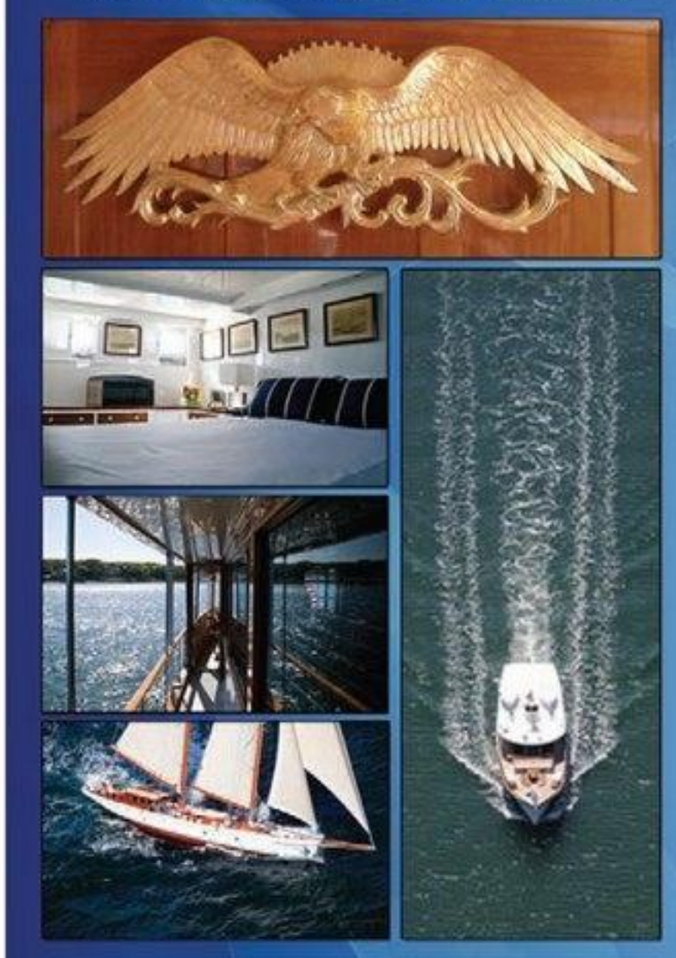

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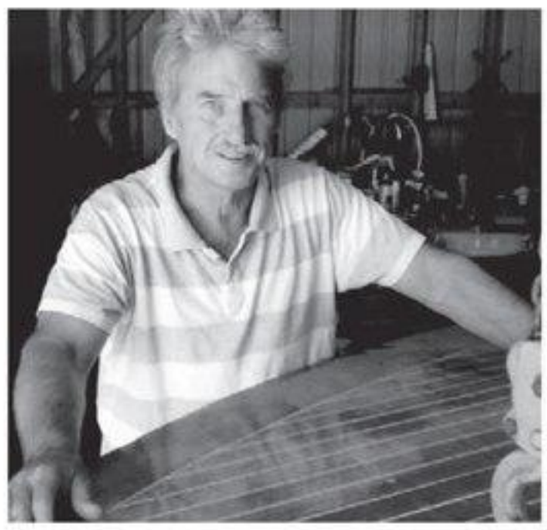

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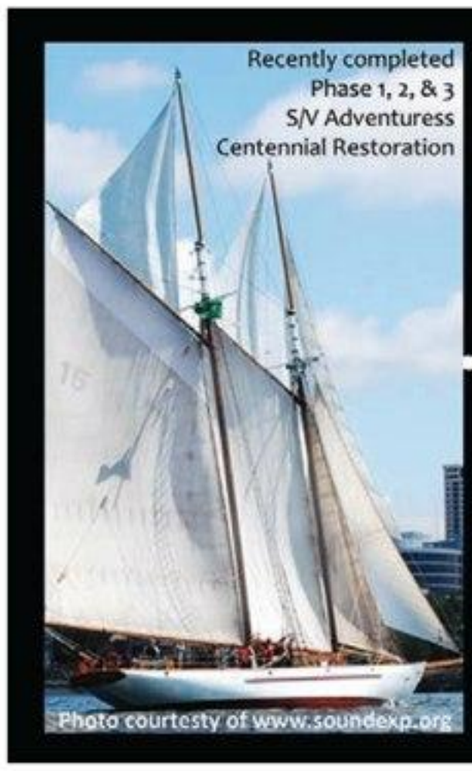

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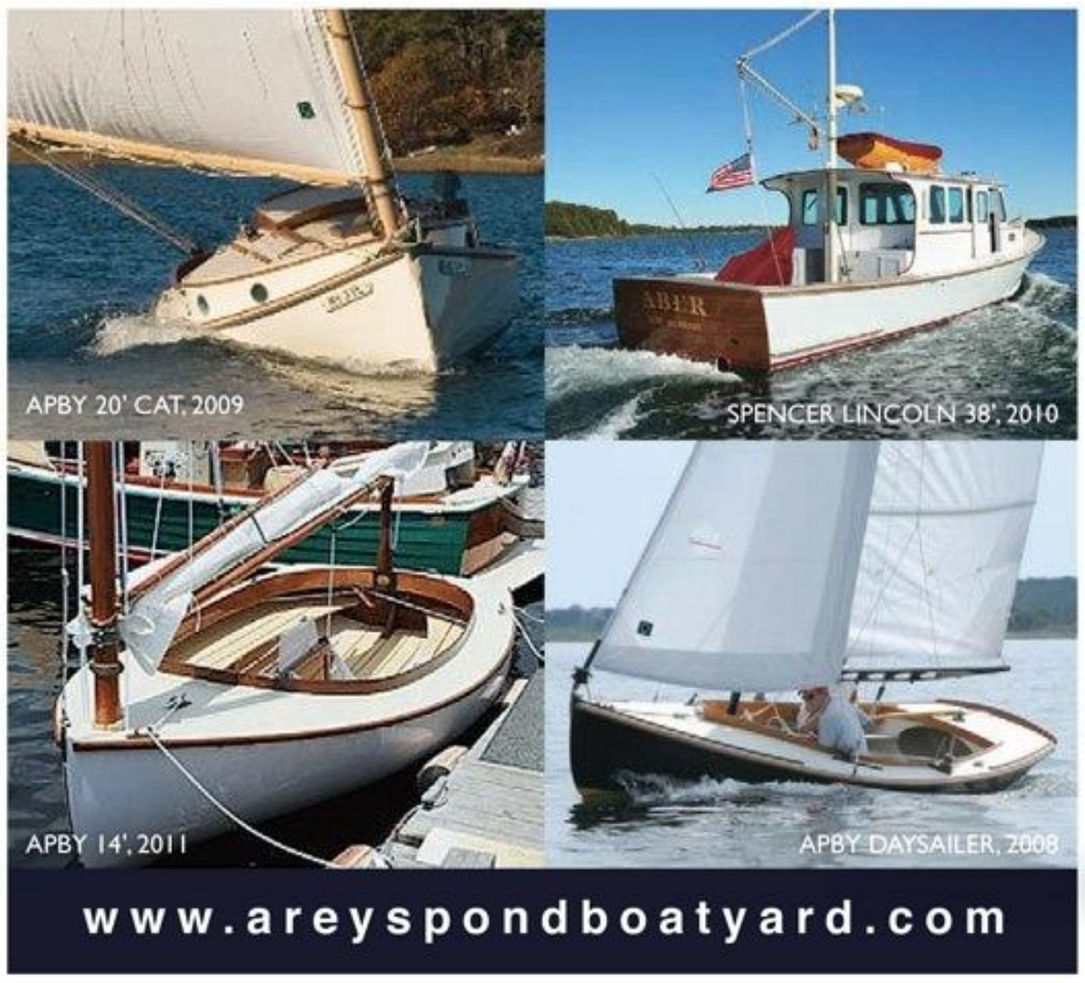

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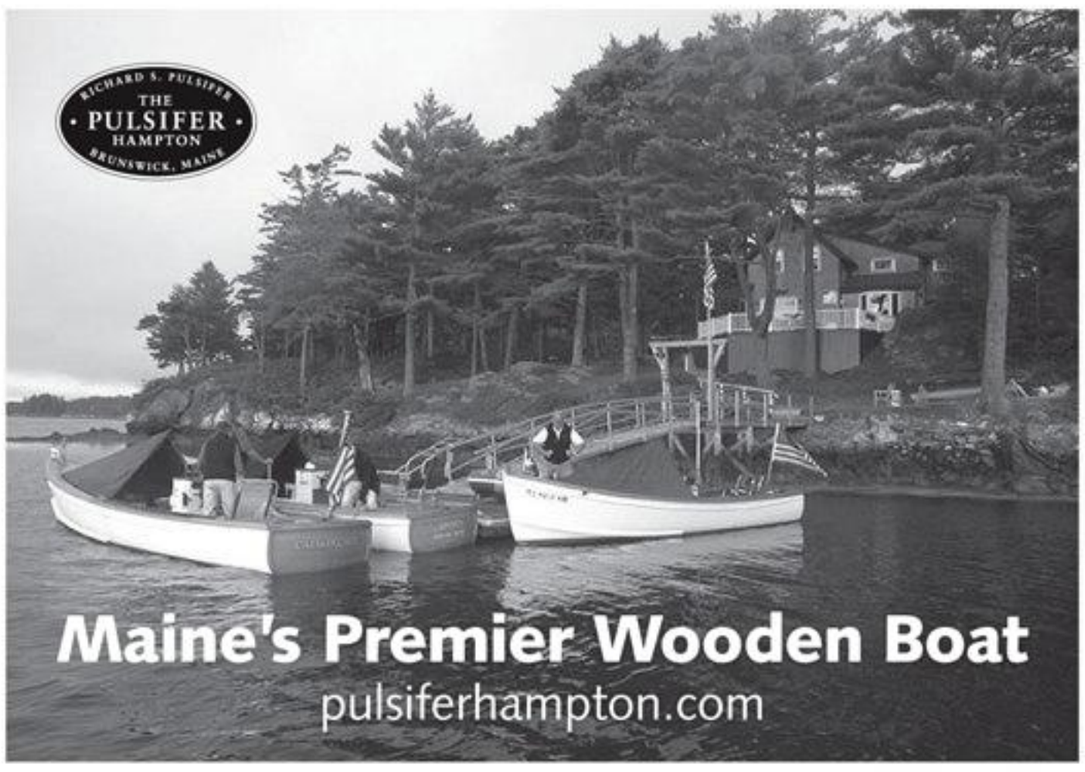

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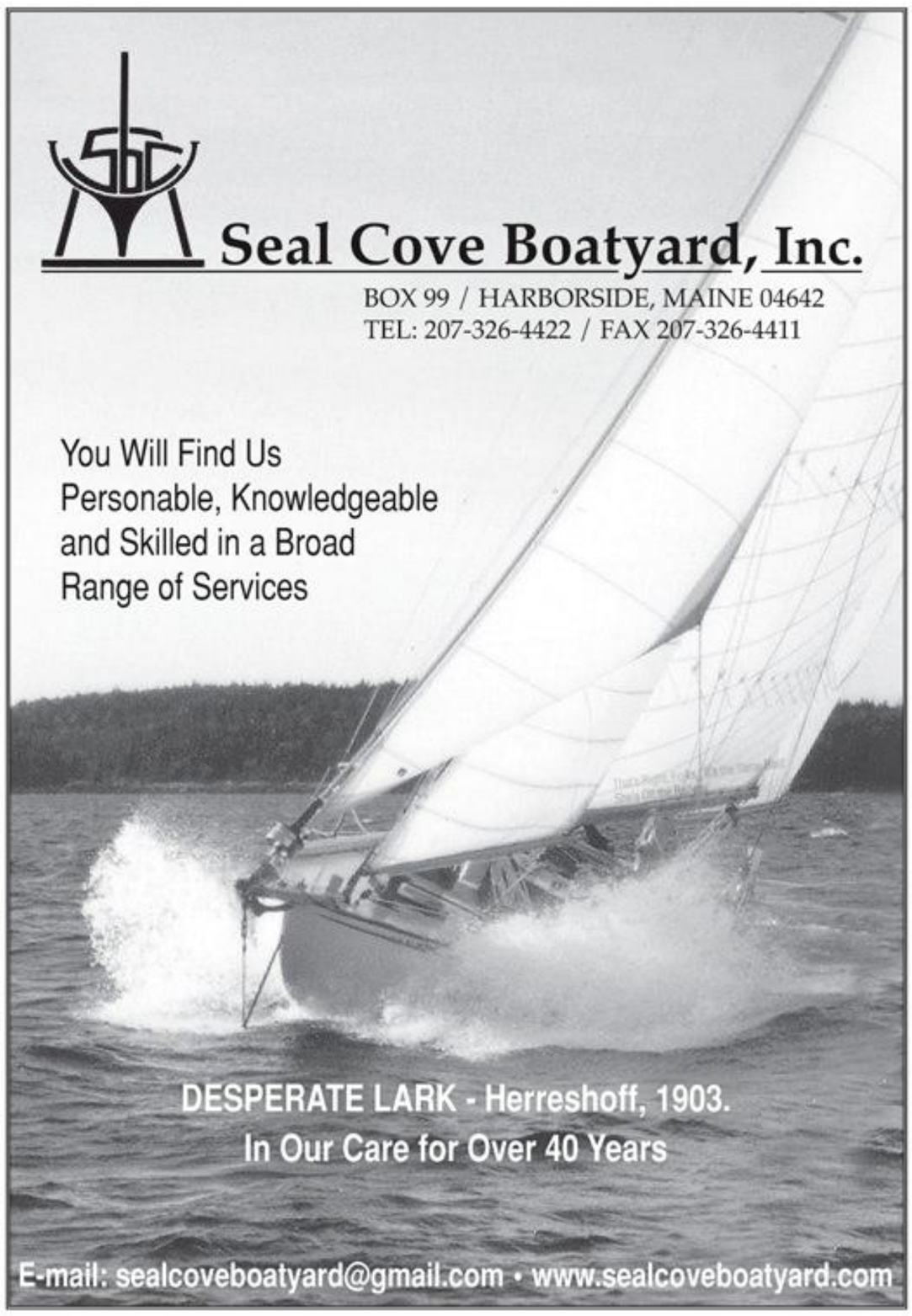

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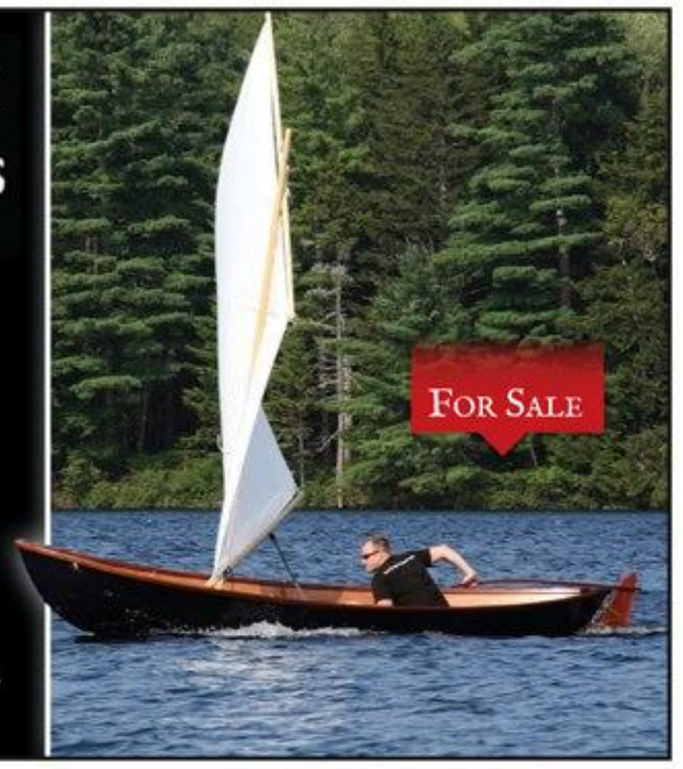

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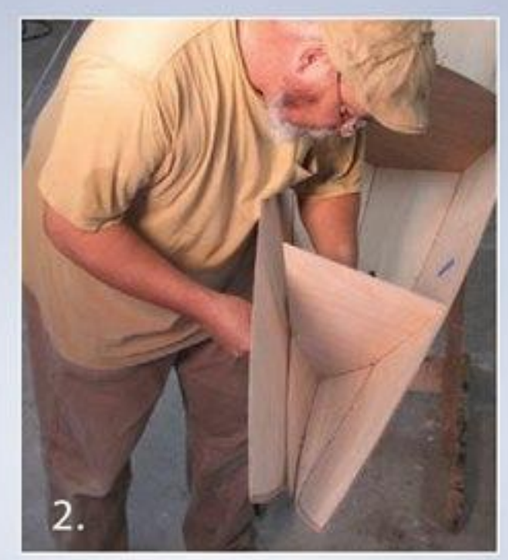
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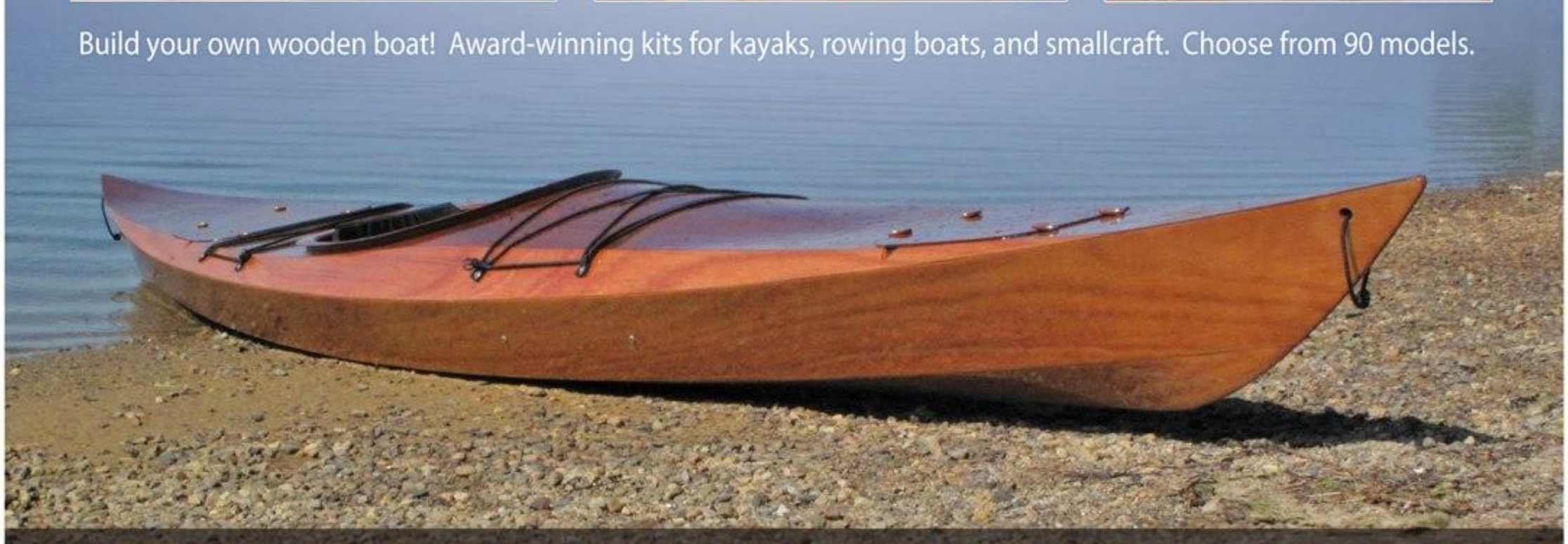

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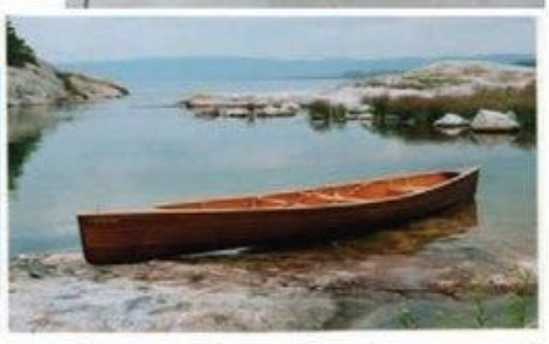

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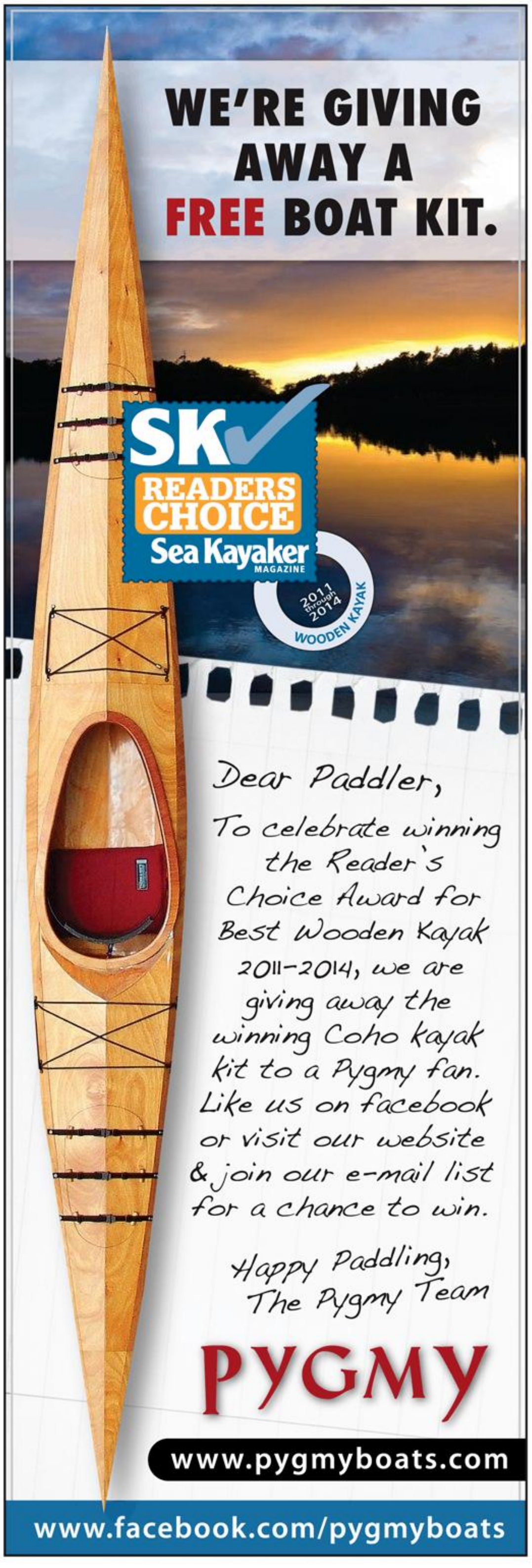
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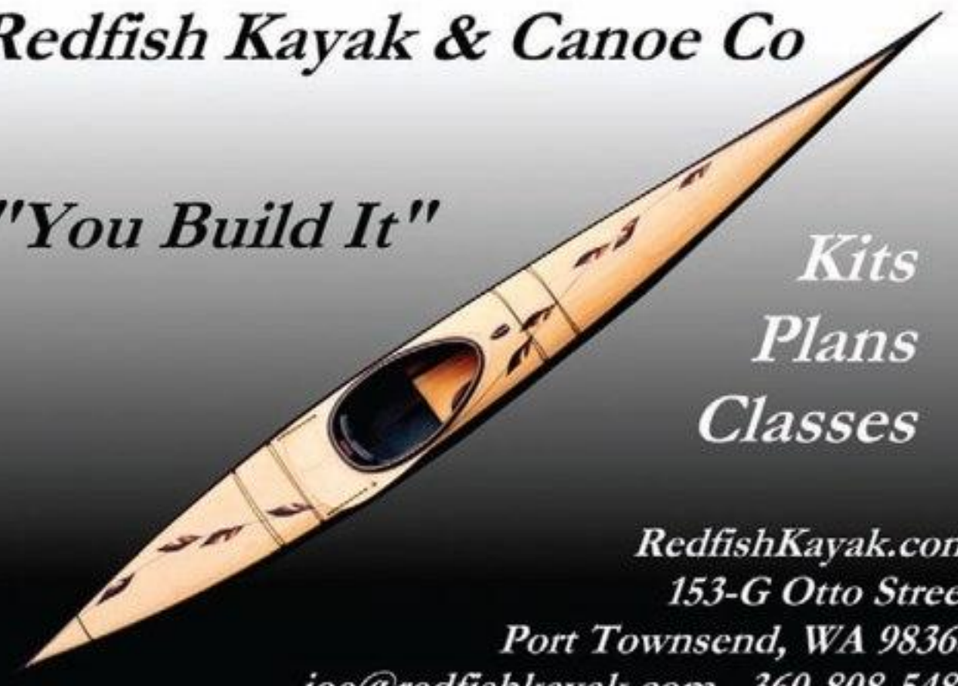

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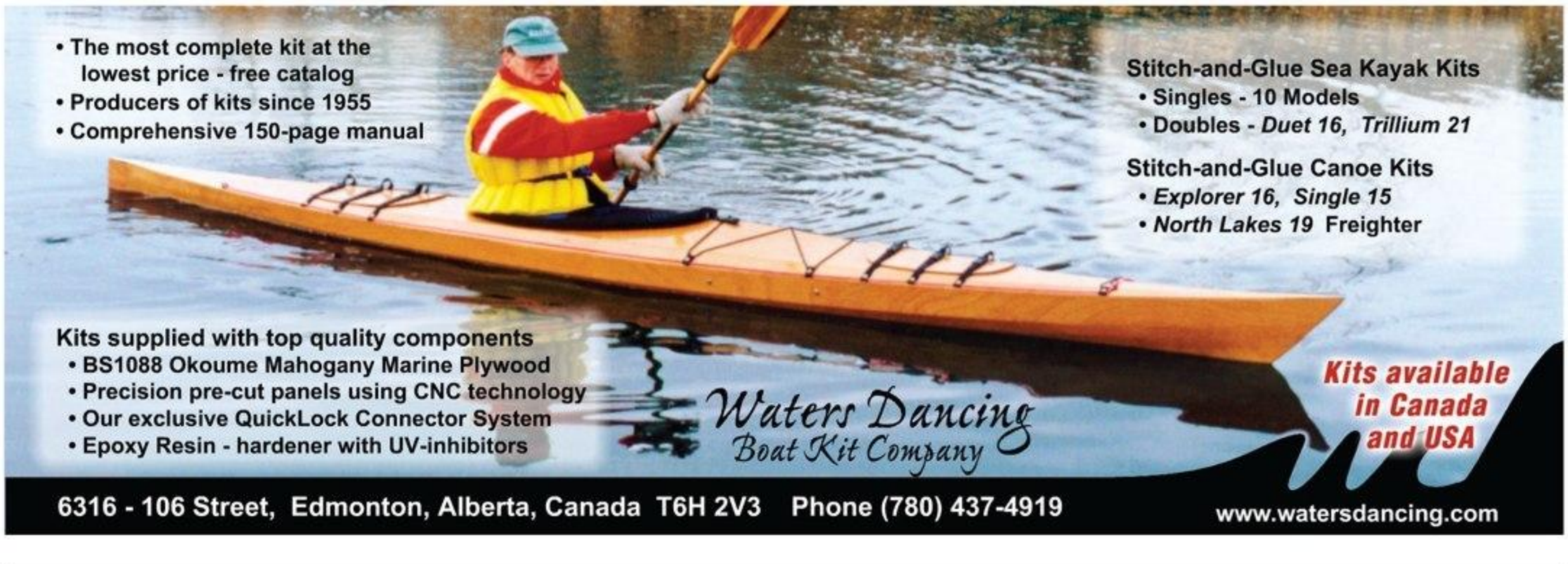
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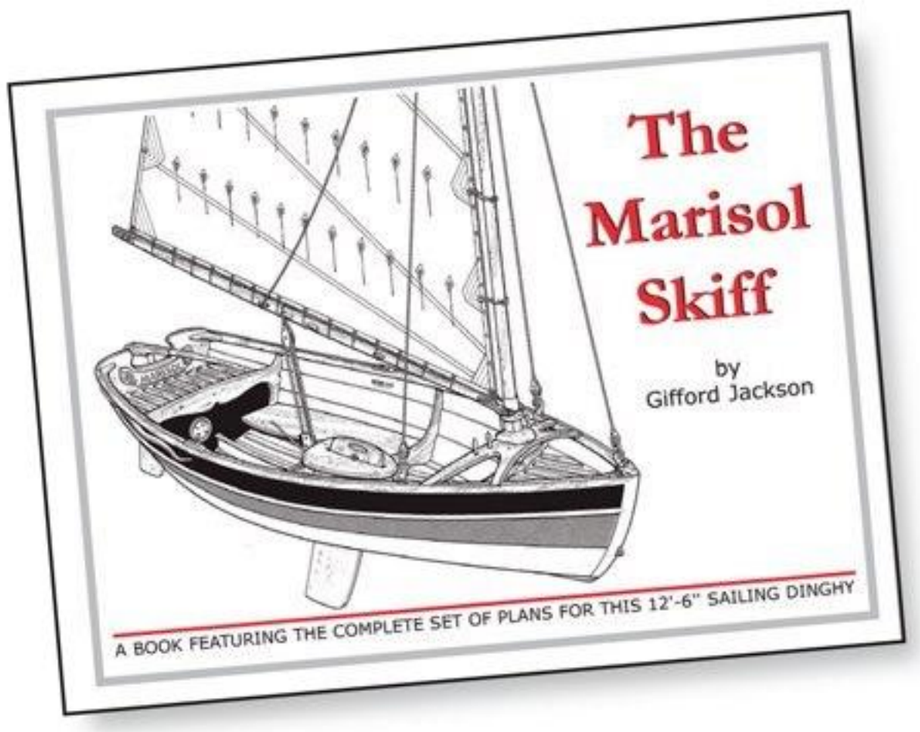

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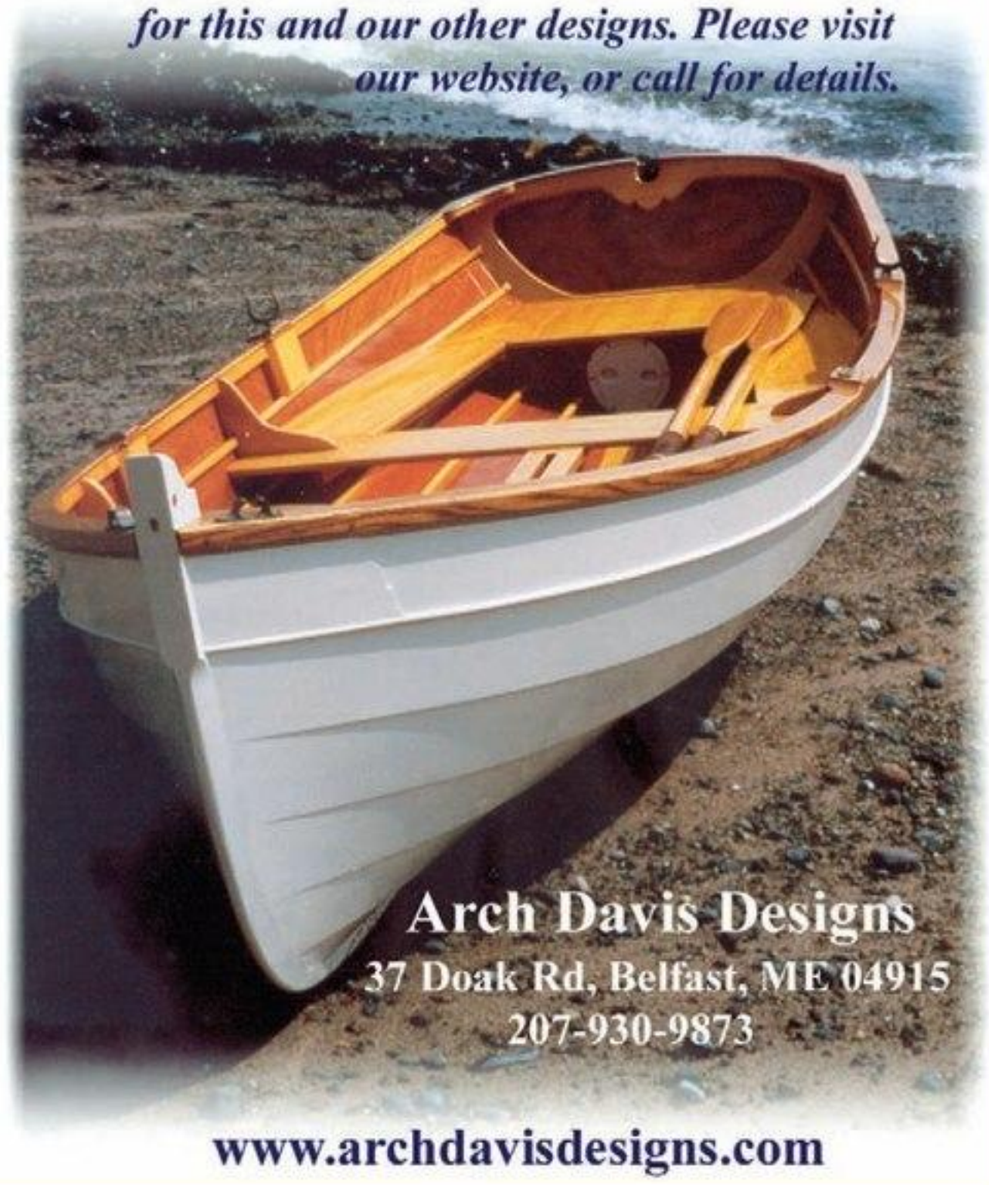

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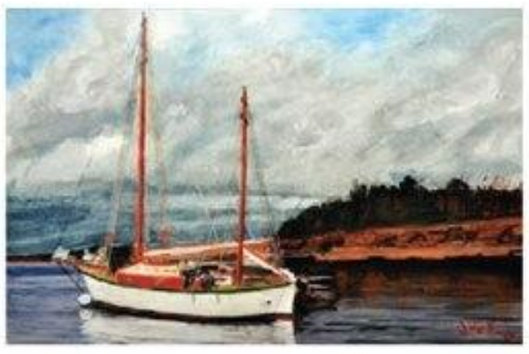

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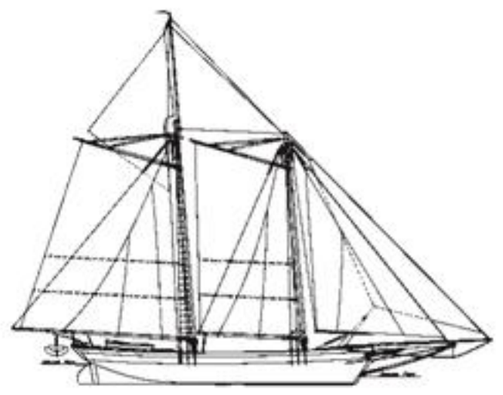

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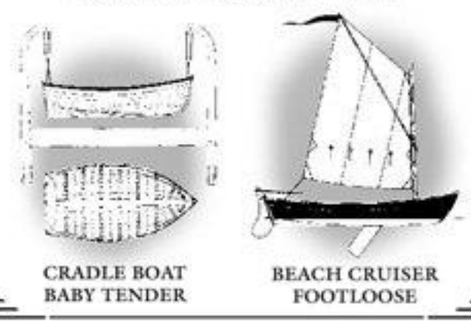

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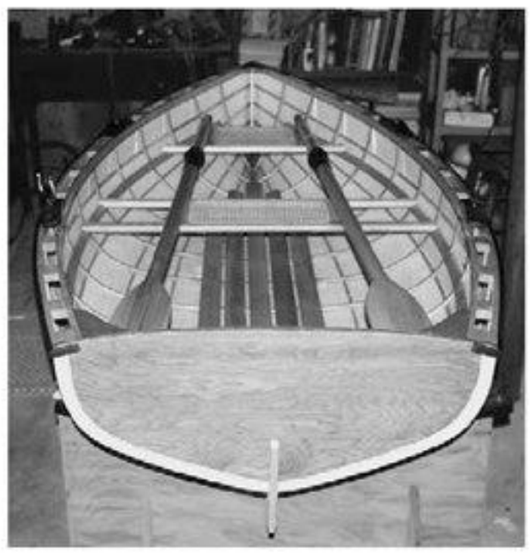

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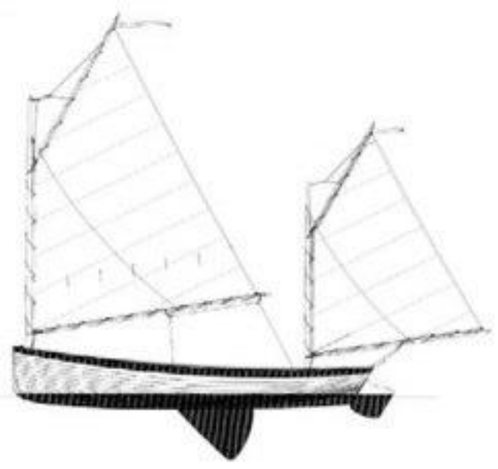

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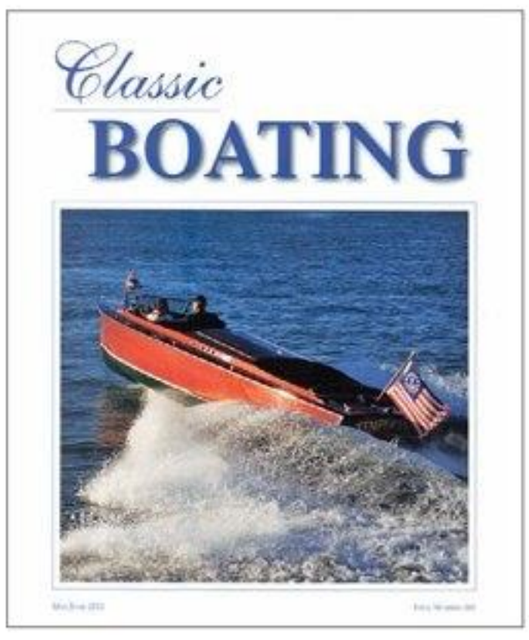

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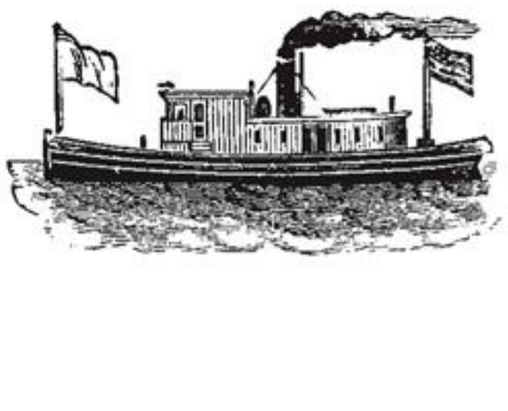

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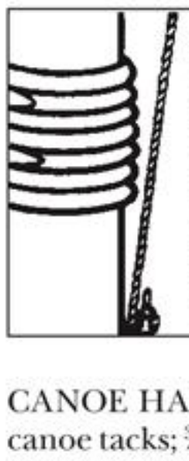

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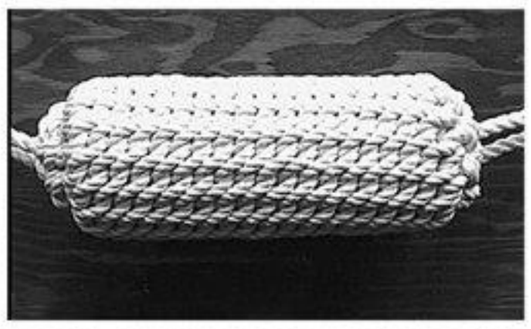

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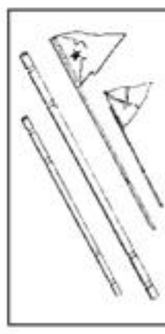

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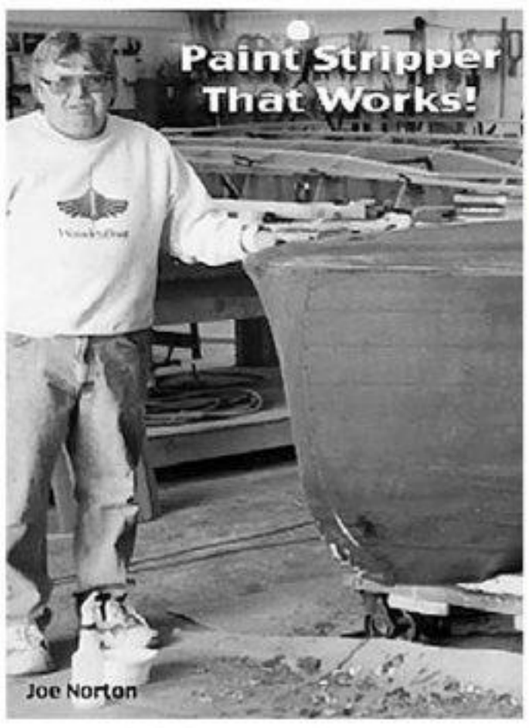

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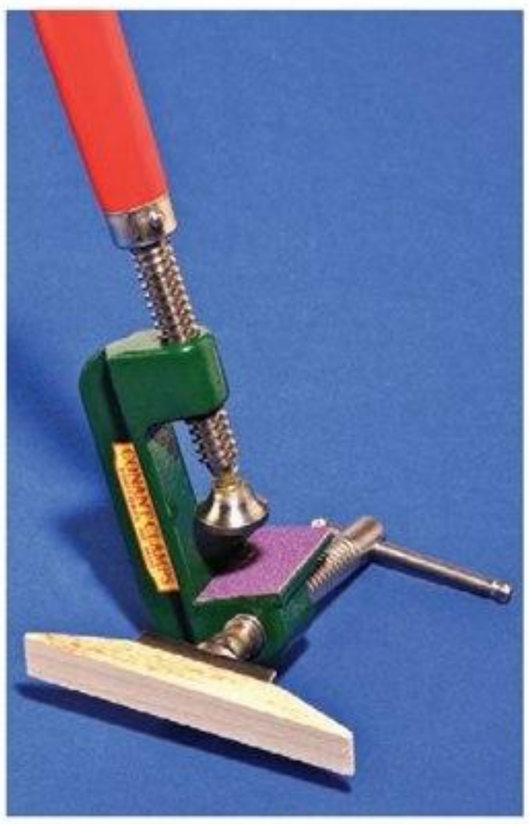

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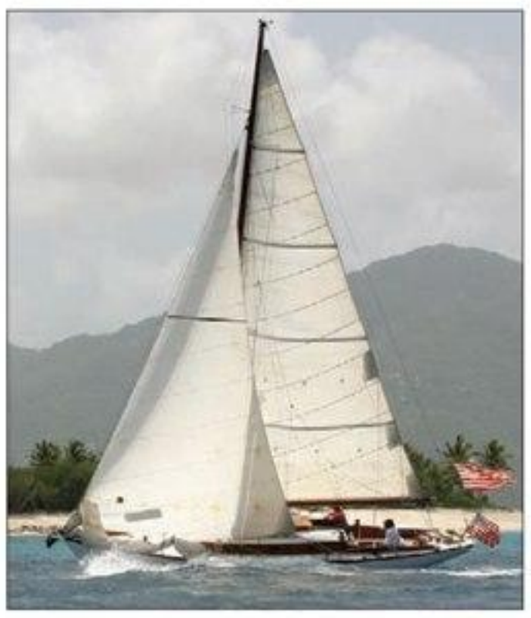

RHODES 24—35′ ON DECK, BEAM 8′, draft 5½′. Mahogany on oak with teak decks. Built Mystic, CT 1949, and extensively rebuilt by present owner the last 10 years. A fast thoroughbred. Four-time winner at Foxy's Wooden Boat Regatta. Hull #1 in her class, just about ready to cruise the Caribbean. Serious offers, near $100,000. Plans, pictures: yankee_sailor@yahoo.com.

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11′ NORWEGIAN SAILING PRAM—Walt Simmons built. Douglas-fir, yellow and red cedar. Very little use—splendid example. Asking $1,900 or offer within reason. More pictures/info www.overlandexperts.com/sula. Bruce: bioelf@mindspring.com, 860–873–2169.

64′ SKERRY CRUISER—1936 Knud Reimers–designed 75-square meter sloop. Finished bright, very fast, excellent condition. 414–305–2541.

32′, 1939 PACIFIC-CLASS SLOOP #35, restored 2009. New sails, rig, deck, cabin, rails, planks, frames, hardware, splined seams. Excellent condition. Lying San Diego. Kettenburg design, asking $19,000. Call 858–922–9686.

1973 GRAND BANKS, 32′, HULL #407—Rare model, ice-box, gas stove, $11,000. Contact Bill, 954–931–2011.

HISTORIC CHESAPEAKE OYSTER Trader "M.V. Winnie Estelle"—66′, 90 years-old, fully restored 20 years ago, fine working condition. Vessel is based in Belize, and in Rio Dulce, Guatemala. Priced to sell at $125,000 or best offer. 877–208–8616, pelicanproperties@gmail.com, http://belizerealestate.com/wes.html.

BEETLE CAT HULL #419. Excellent condition, Doyle sail (2010), cockpit/boom cover (2010), trailer, new stays, hoops, running rigging. Paint and varnish perfect. $8,000. jgraceffa@morrisonmahoney.com.

1937, 35.9′ LOD "SEA WITCH," Angelman Ketch, hull #1. Documented. Circumnavigated twice, won Transpac, second 1949, first 1951, corrected time. Gaff-rigged, new electrical wiring, navigation, paint and mahogany on oak, full lead keel, Dynel-sheathed, 6′ dinghy. Well maintained. *WoodenBoat*, March/April 1999. Titusville, FL www.heritech.com/seawitch/sea_witch.htm.

WESTON FARMER DESIGN SKIPJack—Hull two layers okoume plywood. 13-hp diesel. Includes trailer. Days 203–797–1992, ask for Al, or agk1947@yahoo.com.

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16′ WHITE BEAR SKIFF—LAPstrake cedar on oak, mahogany transom and rudder, copper fastened. Includes oars and floorboards. Needs repair to some planks and frames; transom has a crack. Wonderful classic little boat worthy of repair. It was donated as a potential student project that never got attention, now hoping for a new home. Located Whidbey Island, u-haul. 360–331–3758, or 360–929–6834 to leave callback number.

1944, 40′ NAVY LIBERTY LAUNCH—Sound hull, built in the Brooklyn Navy yard. Cypress over oak, mahogany pilothouse, and large cabin. Converted hull to cruiser style in 1982. 318 Chrysler engine in good running order, and with very low hours. Boat in water every season for the last 31 years. Very heavy, comfortable, and pretty. Vessel needs owner with ability to continue to maintain her. Free to good home. Photos available. Located in Salisbury, MA, 978–452–1779. E-mail petermarina@comcast.net.

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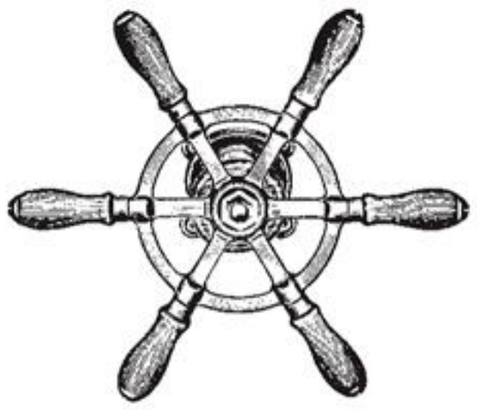

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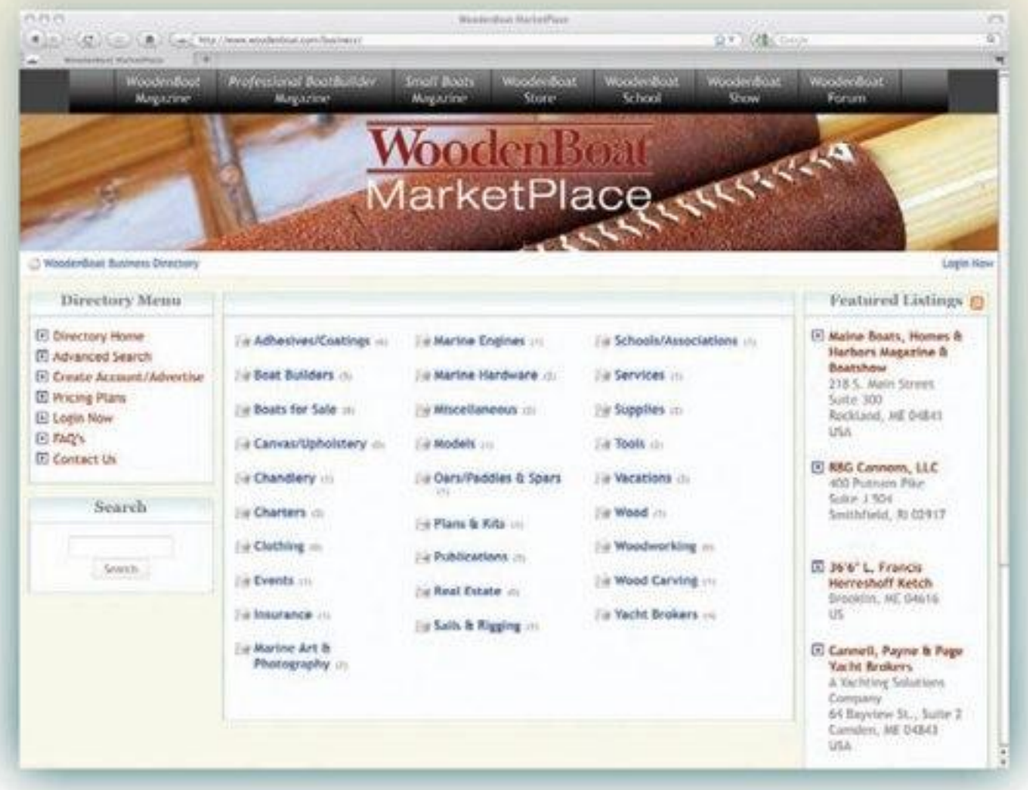

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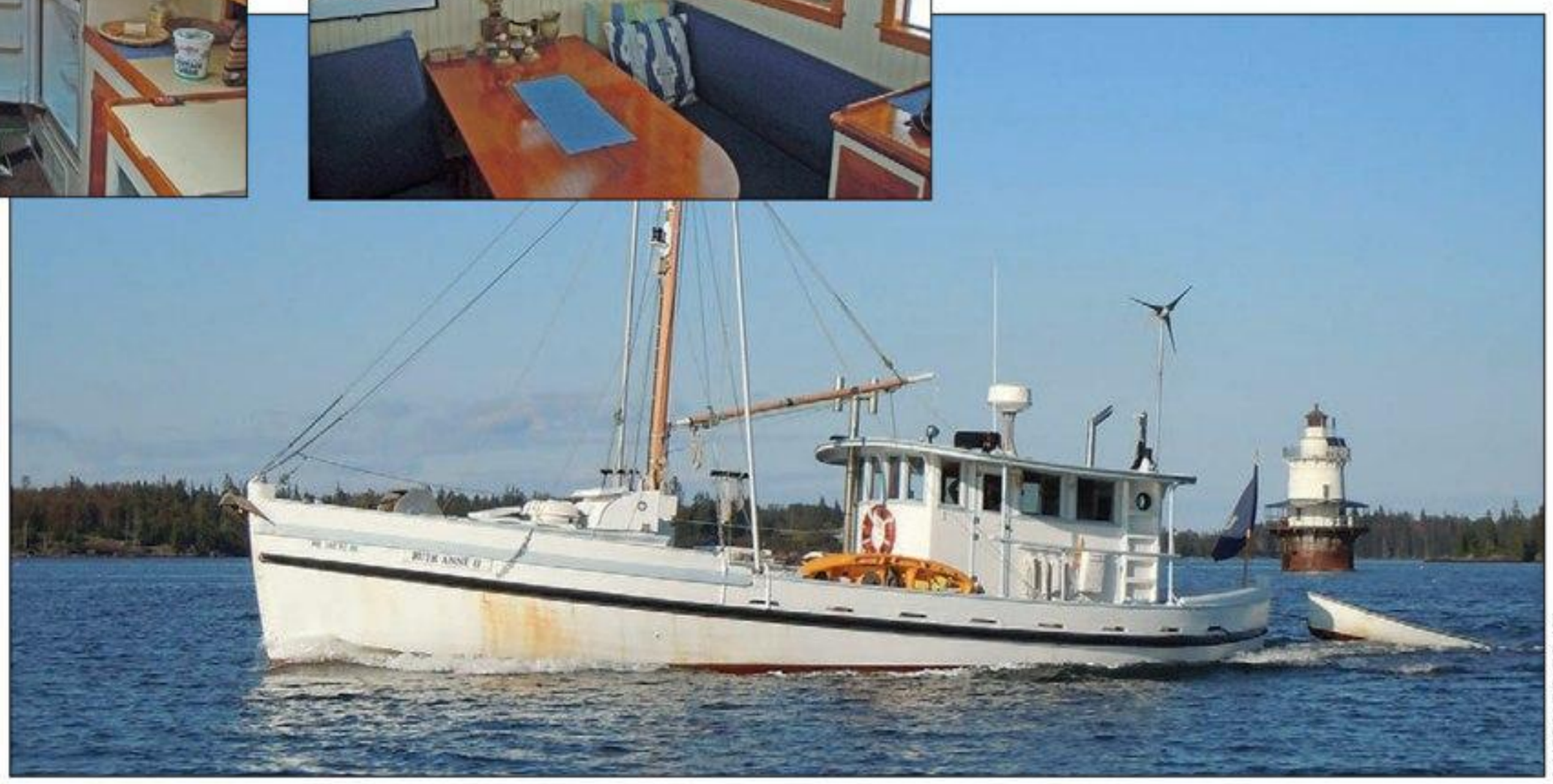
RUTH ANNE II

A converted sardine carrier

RUTH ANNE II
Particulars

LOA	52′
Beam	12′ 6″
Draft	5′ 6″
Power	GM 4-71 Detroit Diesel

Modeled and built by Wagstaff & Hatfield, Port Greville, Nova Scotia, Canada, 1942



MAYNARD BRAY

The sardine carrier RUTH ANNE II was converted into a comfortable cruiser several years ago. She's ready now for more exploring, though will demand vigilant upgrading and maintenance if she's to keep going.

by Maynard Bray

Far too many usable wooden commercial vessels meet an early demise due to government buyback programs or from corporate fleet modernizations, but RUTH ANNE II is a happy exception. Present owners Carl and Susan Chase selected her from the several Connors Bros. carriers in Blacks Harbor, New Brunswick, that were being disposed of, and created a dandy cruiser by replacing the original pilothouse with a new and larger one, and installing a galley, full-width toilet space, and guest quarters where there'd once been a fish hold. She became an exceptionally fine coastal cruiser in which the Chases have voyaged as far south as Florida on the Intracoastal Waterway. But after six years, they've "been there, done that" and are ready to pass the vessel on to another owner.

This is a charmer, no doubt about that, and will troll in lots of prospects, including a fair share of dreamers. But let me warn you that unless you keep up with the smart and timely care RUTH ANNE II has been given, she'll soon be gone. For one thing, she's always been afloat year-round—never been allowed to dry out. That has to continue. Lately, she's been completely covered during the off-season and thus protected from rain, frost, and snow. Her paintwork has been maintained and, as a result, her decks don't leak. And, except for a single winter, she's always been kept and used Downeast where baking-in-the-sun days are rare. To depart from this kind of care is asking for trouble.

RUTH ANNE II is ready to go—a pleasant departure from the boats I usually feature on this page. But this not to say she has no needs. You have to recognize that she was built 70 years ago of local Canadian woods (spruce, maple, and birch) to commercial standards with galvanized fastenings. The top of her stem and her bulwarks have enough rot to suggest replacement, and her original steel fuel tanks are showing rust here and there. She leaks through her bottom some, but not a lot. Sleeping four people in two staterooms and accommodating at least as many at her pilothouse dinette, this boat offers grand possibilities, made even more attractive when you consider she consumes only around 2½ gallons per hour at 7½ knots.

RUTH ANNE II now swings to her mooring in South Brooksville, Maine. To see her or to learn more contact Carl Chase, candschase@gmail.com.

Maynard Bray is WoodenBoat*'s technical editor.*

Send candidates for Save a Classic to Maynard Bray, WoodenBoat Publications, P.O. Box 78, Brooklin, ME 04616.

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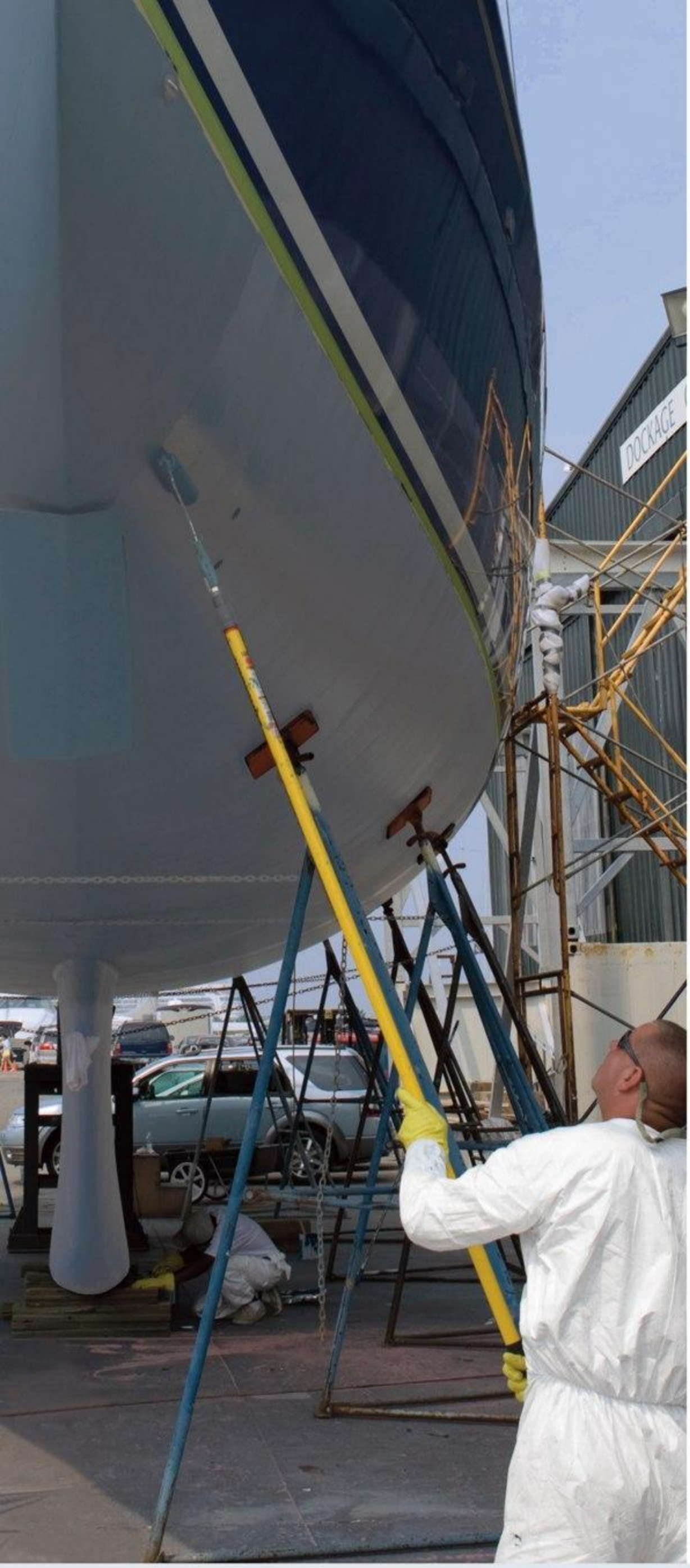

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